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Astounding Science Fact & fiction

DAMNED IF YOU DON'T, By Randall Garrett

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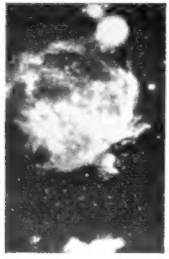

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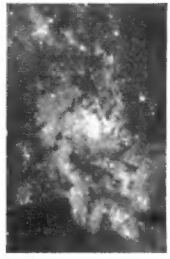

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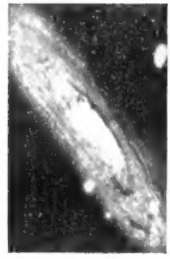

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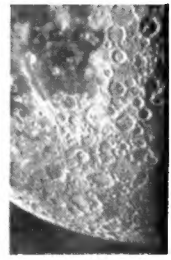

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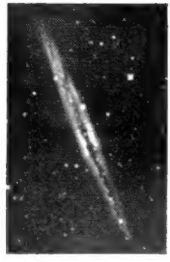

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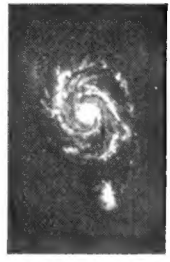

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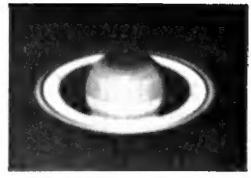

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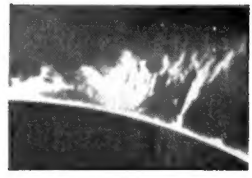

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EDITORIAL

"YOU MUST AGREE WITH ME..."

ONE of the most fundamental of all human feelings is that conviction "If he knew what I know, he would, obviously, agree with me. Since he doesn't agree with me, that proves that he does not know what I know."

The thing that makes that one so tough to break down—when the other fellow has it—or give up—when you have it!—is that, many times, it is perfectly true. If that savage tribesman knew, as I know, that there's a twenty-two hundred volt current running through that pretty shiny copper wire up there, he wouldn't be climbing the pole to steal it.

But it's also, of course, wrong many times. If Tog,—The Other Guy—knows *more* than you do . . . then he not only knows what you know, but knows enough more to alter his conclusion. The experienced high-line worker climbs the pole, and goes happily to work on the twenty-two hundred volt line . . . because he knows not only that twenty-two hundred volts are lethal, but also that heavy-duty rubber work-gloves block the current completely.

There is, however, one particular class of "knowledge" that seems to underline almost all of the utterly-futile type of arguments people get into. This is one I haven't seen discussed; I've simply run into the darned thing as a hopeless, blank wall again and again. It's immune to logic or anything else—yet appears to the unmovable opposition the very essence of logic!

To understand it, we need to recognize precisely what the symbol Zero means . . . and what it does *not* mean. It took quite a while to get men to understand that a symbol for "nothing" had any point or value. Gradually, however, the idea did get across; "10" isn't the same as "1"; the "nothing" symbol has value, and immense use.

The difficulty is that Zero does *not*

symbolize "nothing"; it actually is the symbol for a very specific, positive statement. It's the symbol for "a real, but presently empty, class."

It's just as important as any of the other digits, because, like them, it asserts "the class exists"; it differs only in stating that the degree of occupancy of the class is not one, two, three, et cetra, but *none*.

Currently the number of men who have been in orbit around the Earth is Zero.

Now let's talk about a new concept; we'll call it *nulldict*, and, to save having to have special type made, use the figure # as our symbol. We'll define *nulldict*, #, as being the positive statement "no class exists." That is, where Zero, 0, means "the class exists, but is empty," nulldict, # crosses out the existence of the class—it is the statement "no class exists here."

We might say, "The proportion of carbon-14 in atmospheric carbon dioxide is very small; nearly all is either C-12 or C-13, and C-10 and C-15 are #."

Now let's take that statement that the number of men who have been in orbit around Earth is zero. As of 1960, that is an acceptable statement —and it means to the man-in-the-street exactly what it means to me; as of now, the class of space-fliers is an empty class.

As of 1930, however, what it meant to me was entirely different from what it meant to the man-in-the-street. (And practically all professional scientists, as of 1930, also!)

You see, it necessarily follows that a class that does not exist is an empty class. That is, a class which is #, is quite obviously, also 0. It's impossible to have any number of members of a class that doesn't exist at all. Like the number of ice-mountains on the surface of the Sun.

Therefore, the statement "There are no space-fliers," can mean *either zero or nulldict*, as it is commonly used. No distinction is made between the two fundamentally different concepts.

Therefore, to most people, in 1930, the statement "There are no space-fliers" meant "space-fliers are a nulldict class" while to me it meant "space-fliers is a real, but empty, class." As of 1960, the statement "There are no space-fliers," means, to almost everyone, "The class 'space-fliers' is real but, as yet, empty."

I believe Lewis Carroll is responsible for the lovely false-syllogism about the cat-o'-nine-tails:

1. No cat has eight tails.

2. Any cat has one more tail than no cat.

3. Therefore any cat has nine tails.

This syllogism is, actually, based on confusion of "no" meaning nulldict, and "no" meaning zero. Rephrased, it is:

1. The class of eight-tailed cats is nulldict.

2. Any cat has one more tail than zero cats.

3. Therefore there is no conclusion.

During the years between 1939,

when the discovery of fission clearly implied the possibility of chain reactions in uranium, and 1945 when there was public announcement of its practical achievement, I regularly encountered the zero-nulldict confusion. And . . . the emotional mechanism that makes nulldict so widely desired.

If atomic reactors were nulldict, then there was no question, problem, risk, worry—what have you—concerning the economic effects of atomic power. If atomic bombs were nulldict, then there was no need to worry, there was no risk, of city-annihilator bombs.

In 1946, at lunch at one of the country's atomic research centers, I was talking to a top-level nuclear physicist, one of the major figures in the Manhattan project, about future atomic fuel possibilities. "No," he said flatly, "there are no others. Uranium is the only one. Uranium is bad enough; fortunately we know all the isotopes and their properties now, and there are no other possible atomic fuels!"

Here was a man who was, beyond question, one of the world's top nuclear scientists. But he was, also, a man—and if the class of alternative —and cheaper—atomic fuels was not nulldict . . . he was frightened. If the class alternative fuels was nulldict, on the other hand, there was no risk of even worse nuclear weapons than those he already knew of.

To protect himself from the intense worry consequent on recognizing that alternatives existed—he was deluding himself that there was a nulldict . . . whereas, as of 1946, the class of alternative nuclear power sources was simply zero. In the fission class, there is thorium-232, and in the fusion class there are deuterium, tritium, lithium-hydrogen, and several others.

And here we begin to get to the real meat of "If you knew what I know, you would agree with me!" If I accept-know-feel that there are no alternative nuclear fuels, then I will *know* there is no need to discuss which alternative substances merit testing.

The concept of quantity, degree, or intensity simply does not apply to a nulldict class. "Good, better, best" has no possible application to the totally-nonexistent. Which is more aesthetically satisfying, a four-sided triangle, or a three-sided pentagon?

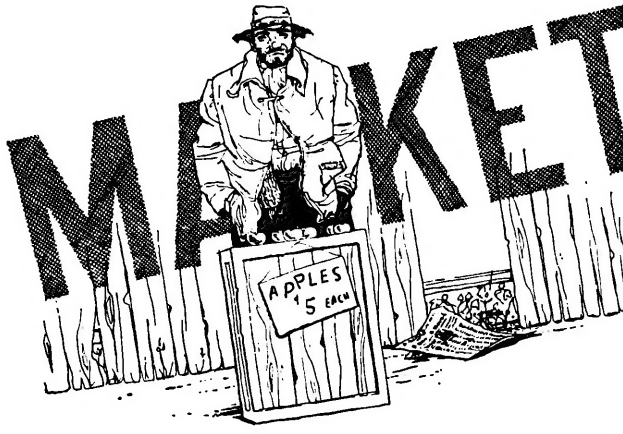
If Tog *knows* there is no such class as *lorbils,* then Tog need not worry about the consequences of introducing *lorbils* into commerce.

Now there is always a risk in anything. (Probability never reaches either 1.00000 or 0.00000, in other words.) In any planned action-pattern, there are two risk possibilities; the risk of doing, and the risk consequent on not-doing.

The *only* circumstance under which probability does reach zero, is when the class considered is nulldict. The probability of encountering a three-sided pentagon *is* zero—because it's nulldict.

If Tog considers the class *lorbils*

(*Continued on page* 176)



DAMNED

You can and you can't;
You will and you won't.
You'll be damn'd if you do;
You'll be damn'd if you don't.
—LORENZO DOW;
"Definition of Calvinism"

THE workshop-laboratory was a mess.

Sam Bending looked it over silently; his jaw muscles were hard and tense, and his eyes were the same.

To repeat what Sam Bending thought when he saw the junk that had been made of thousands of dollars worth of equipment would not be inadmissible in a family magazine, because Bending was not particularly addicted to four-letter vulgarities. But he *was* a religious man—in a lax sort of way—so repeating what ran through his mind that gray Monday in February of 1981 would be unfair to the memory of Samson Francis Bending.

Sam Bending folded his hands over his chest. It was not an attitude of prayer; it was an attempt to keep

CRASHES

Illustrated by van Dongen

We've all heard of the wonderful invention that the Big Corporation or the Utilities suppressed . . .? Usually, that Wonderful Invention won't work, actually. But there's another possibility, too . . .

IF YOU DON'T

By RANDALL GARRETT

those big, gorillalike hands from smashing something. The fingers intertwined, and the hands tried to crush each other, which was a good way to keep them from actually crushing anything else.

He stood there at the door for a full minute—just looking.

The lab—as has been said—was a mess. It would have looked better if someone had simply tossed a grenade in it and had done with it. At least the results would have been random and more evenly dispersed.

But whoever had gone about the wrecking of the lab had gone about it in a workmanlike way. Whoever had done the job was no amateur. The vandal had known his way about in a laboratory, that was obvious. Leads had been cut carefully; equipment had been shoved aside without

care as to what happened to it, but with great care that the shover should not be damaged by the shoving; the invader had known exactly what he was after, and exactly how to get to it.

And he—whoever he was—had gotten his hands on what he wanted.

The Converter was gone.

Sam Bending took his time in regaining his temper. He had to. A man who stands six feet three, weighs three hundred pounds, and wears a forty-eight size jacket can't afford to lose his temper very often or he'll end up on the wrong end of a homicide charge. That three hundred pounds was composed of too much muscle and too little fat for Sam Bending to allow it to run amok.

At last, he took a deep breath, closed his eyes, and let his tense nerves, muscles, and tendons sag—he pretended someone had struck him with a dose of curare. He let his breath out slowly and opened his eyes again.

The lab still looked the same, but it no longer irritated him. It was something to be accepted as done. It was something to investigate, and—if possible—avenge. But it was no longer something to worry about or lose his temper over.

I should have expected it, he thought wryly. *They'd have to do* something *about it, wouldn't they?*

But the funny thing was that he *hadn't* expected it—not in modern, law-abiding America.

He reached over to the wall switch to turn on the lights, but before his hand touched it, he stopped the motion and grinned to himself. No point in turning on the switch when he knew perfectly well that there was no power behind it. Still—

His fingers touched the switch anyway. And nothing happened.

He shrugged and went over to the phone.

He let his eyes wander over the wreckage as his right index finger spun the dial. Actually, the room wasn't as much of a shambles as it had looked on first sight. The—burglar?—hadn't tried to get at anything but the Converter. He hadn't known exactly where it was, but he'd been able to follow the leads to its hiding place. That meant that he knew his beans about power lines, anyway.

It also meant that he hadn't been an ordinary burglar. There were plenty of other things around for a burglar to make money out of. Unless he knew what it was, he wouldn't have gone to the trouble of stealing the Converter.

On the other hand, if he had—

"Police Department," said a laconic voice from the speaker. At the same time, the blue-clad image of a police officer appeared on the screen. He looked polite, but he also looked as though he expected nothing more than a routine call.

Bending gave the cop's sleeve a quick glance and said: "Sergeant, my name is Samson Bending. Bending Consultants, 3991 Marden—you'll find it in the phone book. Someone

broke into my place over the week end, and I'd appreciate it if you'd send someone around."

The sergeant's face showed that he still thought it was routine. "Anything missing, sir?"

"I'm not sure," said Bending carefully. "I'll have to make a check. I haven't touched anything. I thought I'd leave that for the detectives. But you can see for yourself what's happened."

He stepped back from the screen, and the Leinster cameras automatically adjusted for the greater distance to the background.

"Looks like you had a visitor, all right," said the police officer. "What is that? A lab of some kind you've got there?"

"That's right," Bending said. "You can check it with the Register."

"Will do, Mr. Bending," agreed the sergeant. "We'll send the Technical Squad around in any case." He paused, and Sam could see that he'd pressed an alarm button. There was more interest in his manner, too. "Any signs that it might be kids?" he asked.

Sam shrugged. "Hard to tell. Might be. Might not." He knew good and well that it wasn't a JD gang that had invaded his lab. He grinned ingratiatingly. "I figure you guys can tell me more about that than I could tell you."

The sergeant nodded. "Sure. O.K., Mr. Bending; you just hold on. Don't touch anything; we'll have a copter out there as soon as we can. O.K.?"

"O.K.," Sam agreed. He cut off as the cop's image began to collapse.

Sam Bending didn't obey the cop's order to touch nothing. He couldn't afford to—not at this stage of the game. He looked over everything—the smashed oscilloscopes, the overturned computer, the ripped-out meters—everything He lifted a couple of instruments that had been toppled to the floor, raising them carefully with a big screwdriver, used as a lever. When he was through, he was convinced that he knew exactly who the culprit was.

Oh, he didn't know the name of the man, or men, who had actually committed the crime. Those things were, for the moment, relatively unimportant. The police might find them, but that could wait. The thing that *was* important was that Bending was certain within his own mind who had paid to have the lab robbed.

Not that he could make any accusations to the police, of course. That wouldn't do at all. But *he* knew. He was quite certain.

He left the lab itself and went into the outer rooms, the three rooms that constituted the clients' waiting room, his own office, and the smaller office of Nita Walder, the girl who took care of his files and correspondence.

A quick look told him that nothing in the offices had been disturbed. He shrugged his huge shoulders and sat down on the long couch in the waiting room.

Much good it may do them, he thought pleasantly. *The Converter*

won't be worth the stuff it's made of if they try to open it.

He looked at the clock on the wall and frowned. It was off by five hours. Then he grinned and looked at his wrist watch. Of course the wall clock was Off. It had stopped when the power had been cut off. When the burglars had cut the leads to the Converter, everything in the lab had stopped.

It was eight seventeen. Sam Bending lit a cigarette and leaned back to wait for the cops. United States Power Utilities, Monopolated, had overstepped themselves this time.

Bending Consultants, as a title for a business, was a little misleading because of the plural ending of the last word. There was only one consultant, and that was Samson Francis Bending. His speciality was the engineering design of atomic power plants—both the old fashioned heavy-metal kind and the newer, more elegant, stellarators, which produced power by hydrogen-to-helium conversion.

Bending made good money at it. He wasn't a millionaire by any means, but he had enough money to live comfortably on and enough extra to experiment around on his own. And, primarily, it had always been the experimentation that had been the purpose of Bending Consultants; the consulting end of the business had always been a monetary prop for the lab itself. His employees—mostly junior engineers and engineering draftsmen—worked in the two-story building next door to the lab. Their job was to make money for the company under Bending's direction while Bending himself spent as much time as he could fussing around with things that interested him.

The word "genius" has several connotations, depending on how one defines a genius. Leaving aside the Greek, Roman and Arabic definitions, a careful observer will find that there are two general classes of genius: the "partial" genius, and the "general" genius. Actually, such a narrow definition doesn't do either kind justice, but defining a human being is an almost impossible job, anyway, so we'll have to do the best we can with the tools we have to work with.

The "partial" genius follows the classic definition. "A genius is a man with a one-track mind; an idiot has one track less." He's a real wowser at one class of knowledge, and doesn't know spit about the others.

The "general" genius doesn't specialize. He's capable of original thought in any field he works in.

The trouble is that, because of the greater concentration involved, the partial genius usually gets more recognition than the general—that is, if he gets any recognition at all. Thus, the mathematical and optical work of Sir Isaac Newton show true genius; his theological and political ideas weren't worth the paper he wrote them on. Similar accusations might be leveled against Albert Einstein—and many others.

The general genius isn't so well

known because he spreads his abilities over a broad area. Some—like Leonardo da Vinci—have made a name for themselves, but, in general, they have remained in the background.

Someone once defined a specialist as "a man who learns more and more about less and less until he finally knows everything about nothing." And there is the converse, the general practitioner, who knows "less and less about more and more until he finally knows nothing about everything."

Both types can produce geniuses, and there is, of course, a broad spectrum in between. Da Vinci, for instance, became famous for his paintings; he concentrated on that field because he knew perfectly well that his designs for such things as airplanes were impracticable at the time, whereas the Church would pay for art.

Samson Bending was a genius, granted; but he was more toward the "special" than the "general" side of the spectrum. His grasp of nuclear physics was far and away beyond that of any other scientist of his day; his ability to handle political and economic relationships was rather feeble.

As he sat in his waiting room on that chill day of February, 1981, his mind was centered on nuclear physics, not general economics. Not that Bending was oblivious to the power of the Great God Ammon; Bending was very fond of money and appreciated the things it could achieve. He simply didn't appreciate the overall power of Ammon. At the moment, he was brooding darkly over the very fact of existence of Power Utilities, and trying to figure out a suitable rejoinder to their *coup de démon*.

And then he heard the whir of helicopter blades over the building. The police had come.

He opened the door of the lab building as they came up the steps. There were two plainclothes men—the Technical Squad, Bending knew—and four uniformed officers.

The plainclothesman in the lead, a tall, rather thin man, with dark straight hair and a small mustache, said: "Mr. Bending? I'm Sergeant Ketzel. Mind if the boys take a look at the scene? And I'd like to ask a few questions?"

"Fine," said Sam Bending. "Come on in."

He showed the officers to the lab, and telling them nothing, left them to their work. Then he went into his office, followed by Sergeant Ketzel. The detective took down all the pertinent data that Bending chose to give him, and then asked Bending to go with him to the lab.

The other plainclothesman came up to Sergeant Ketzel and Bending as they entered. "Pretty easy to see what happened," he said. "Come on over and take a look." He led them over to the wall where the Converter had been hidden.

"See," he said, "here's your main power line coming in here. It's been burned off. They shut off the power

to cut off the burglar alarm to that safe over there."

Ketzel shook his head slowly, but said nothing for the moment. He looked at Bending. "Has the safe been robbed?"

"I don't know," Bending admitted. "I didn't touch it after I saw all this wreckage."

Ketzel told a couple of the uniformed men to go over the safe for evidence. While they waited, Bending looked again at the hole in the wall where the Converter had been. And it suddenly struck him that, even if he had reported the loss of the Converter to the police, it would be hard to prove. The thief had taken care to burn off the ends of the old leads that had originally come into the building. Bending himself had cut them a week before to install the Converter. Had they been left as they were, Bending could have proved by the oxidation of the surface that they had been cut a long time before the leads on this side of the Converter. But both had been carefully fused by a torch.

"Nothing on the safe," said one of the officers. "No prints, at any rate. Micros might show glove or cloth traces, but—" He shrugged.

"Would you mind opening the safe, Mr. Bending?" Sergeant Ketzel asked.

"Certainly," Bending said. He wondered if the safe *had* been robbed. In the certainty that it was only the Converter that the burglars had been after, he hadn't even thought about the safe.

Bending touched the handle, turned it a trifle, and the door swung open easily in his hand. "It wasn't even locked," Bending said, almost to himself.

He looked inside. The safe had been thoroughly gone through, but as far as Bending could see, there were no papers missing.

"Don't touch anything in there, Mr. Bending," said Ketzel. "Just tell us as much as you can by looking at it."

"The papers have been disturbed," Bending said carefully, "but I don't think anything is missing, except the petty cash box."

"Uh-huh," Ketzel grunted significantly. "Petty cash box. About how much was in it, Mr. Bending?"

"Three or four thousand, I imagine: you'll have to ask Jim Luckman, my business manager. He keeps track of things like that."

"Three or four *thousand* in petty cash?" Ketzel asked, as though he'd prefer Bending to correct the figure to "two or three hundred."

"About that. Sometimes we have to order equipment of one kind or another in a hurry, and we can usually expedite matters if we can promise cash. You know how it is."

Sergeant Ketzel nodded sourly. He evidently knew only too well how it was. Even the most respectable businessmen were doing occasional business with the black market in technological devices. But he didn't say anything to Bending.

"What did the cash box look like?" he asked.

Bending held out his hands to measure off a distance. "About so long—ten inches, I guess; maybe six inches wide and four deep. Thin sheet steel, with a gray crackle finish. There was a lock on it, but it wasn't much of one; since it was kept in the safe, there was no need for a strong lock."

Sergeant Ketzel nodded. "In other words, an ordinary office cash box. No distinguishing marks at all?"

"It had 'Bending Consultants' on the top. And underneath that, the word 'Lab'. In black paint. That 'Lab' was to distinguish it from the petty cash box in the main office."

"I see. Do you know anything about the denominations of the bills? Were they marked in any way?"

Bending frowned. "I don't know. You'd have to ask Luckman about that, too."

"Where is he now?"

"Home, I imagine. He isn't due to report for work until ten."

"O.K. Will you leave word that we want to talk to him when he comes in? It'll take us a while to get all the information we can from the lab, here." He looked back at the hole in the wall. "It still doesn't make sense. Why should they go to all that trouble just to shut off a burglar alarm?" He shook his head and went over to where the others were working.

It was hours before the police left, and long before they were gone Sam Bending had begun to wish fervently that he had never called them. He felt that he should have kept his mouth shut and fought Power Utilities on the ground they had chosen. They had known about the Converter only two weeks, and they had already struck. He tried to remember exactly how the Utilities representative had worded what he'd said, and couldn't.

Well, there was an easy way to find out. He went over to his files and took out the recording for Friday, 30 January 1981. He threaded it through the sound player—he had no particular desire to look at the man's face again—and turned on the machine. The first sentence brought the whole scene back to mind.

"Thank you for your time, Mr. Bending," the man whose card had announced him as Richard Olcott. He was a rather average-sized man, with a fiftyish face, graying hair that was beginning to thin, and an expression like that of a friendly poker player—pleasant, but inscrutable.

"I always have time to see a representative of Power Utilities, Mr. Olcott," Bending said. "Though I must admit that I'm more used to dealing with various engineers who work for your subsidiaries."

"Not subsidiaries, please," Olcott admonished in a friendly tone. "Like the Bell Telephone Company, Power Utilities is actually a group of independent but mutually co-operative companies organized under a parent company."

Bending grinned. "I stand corrected. What did you have on your mind, Mr. Olcott?"

Olcott's hesitation was of half-second duration, but it was perceptible.

"Mr. Bending," he began, "I understand that you have been . . . ah . . . working on a new and . . . ah . . . radically different method of power generation. Er . . . is that substantially correct?"

Bending looked at the man, his blocky, big-jawed face expressionless. "I've been doing experimenting with power generators, yes," he said after a moment. "That's my business."

"Oh, quite, quite. I understand that," Olcott said hurriedly. "I . . . ah . . . took the trouble to look up your record before I came. I'm well aware of the invaluable work you've done in the power field."

"Thank you," Bending said agreeably. He waited to see what the other

would say next. It was his move.

"However," Olcott said, "that's not the sort of thing I was referring to." He leaned forward in his chair, and his bright gray eyes seemed to take on a new life; his manner seemed to alter subtly.

"Let me put my . . . *our* cards on the table, Mr. Bending. We understand that you have designed, and are experimenting with, an amazingly compact power source. We understand that little remains but to get the bugs out of your pilot model.

"Naturally, we are interested. Our business is supplying the nation with power. Anything from a new type solar battery on up is of interest to us." He stopped, waiting for Bending to speak.

Bending obliged. "I see Petternek let the cat out of the bag prematurely," he said with a smile. "I hadn't intended to spring it until it was a polished work of engineering art. It's been more of a hobby than anything else, you see."

Olcott smiled disarmingly. "I'm not acquainted with Mr. Petternek; to be quite honest, I have no idea where our engineers picked up the information."

"He's an engineer," Bending said. "Friends of mine. He probably got a little enthusiastic in a conversation with one of your boys. He seemed quite impressed by my Converter."

"Possibly that is the explanation." Olcott paused. "Converter, you say? That's what you call it?"

"That's right. I couldn't think up any fancier name for it. Oh, I suppose I could have, but I didn't want anything too descriptive."

"And the word 'converter' isn't descriptive?"

"Hardly," said Bending with a short laugh. "Every power supply is a converter of some kind. A nickel-cadmium battery converts chemical energy into electrical energy. A solar battery converts radiation into electrical current. The old-fashioned, oil- or coal-burning power plants converted chemical energy into heat energy, converted that into kinetic energy, and that, in turn was converted into electrical energy. The heavy-metal atomic plant does almost the same thing, except that it uses nuclear reactions instead of chemical reactions to produce the heat. The stellarator is a converter, too.

"About the only exception I can think of is the electrostatic condenser, and you could say that it converts static electricity into a current flow if you wanted to stretch a point. On the other hand, a condenser isn't usually considered as a power supply."

Olcott chuckled. "I see your point. Could you give me a rough idea of the principle on which your Converter operates?"

Bending allowed himself a thoughtful frown. "I'd rather not, just now, Mr. Olcott. As I said, I want to sort of spring this full-blown on the world." He grinned. He looked like a small boy who had just discovered that people liked him; but it was a calculated expression, not an automatic one.

Olcott looked into Bending's eyes without seeing them. He ran his tongue carefully over the inside of his teeth before he spoke. "Mr. Bending." Pause. "Mr. Bending, we —and by 'we', I mean, of course, Power Utilities,—have heard a great deal about this . . . this Converter." His chocolate-brown eyes bored deep into the gray eyes of Samson Bending. "Frankly," he continued, "we are inclined to discount ninety per cent of the rumors that come to us. Most of them are based on purely crackpot ideas. None the less, we investigate them. If someone *does* discover a new process of producing power, we can't afford to be blind to new ideas just because they happen to come from . . . ah . . . unorthodox sources.

"You, Mr. Bending, are an unusual case. Any rumor concerning your work, no matter how fantastic, is worth looking into on your reputation alone, even though the claims may be utterly absurd."

"I have made no claims," Bending interposed.

Olcott raised a lean hand. "I understand that, Mr. Bending. None the less, others—who may or may not know what they are talking about—have made this claim *for* you." Olcott settled back in his chair and folded his hands across his slight paunch. "You've worked with us before, Mr. Bending; you know that we can—and *do*—pay well for advances in the power field which are contributed by our engineers. As you know, our contract is the standard one—any discovery made by an engineer while in our employ is automatically ours. None the less, we give such men a handsome royalty." He paused, opened his brief case, and pulled out a notebook. After referring to it, he looked up at Bending and said:

"You, yourself have benefitted by this policy. According to our records, you are drawing royalties from three patented improvements in the stellarator which were discovered at times when you were employed by us—or, rather, by one of our associative corporations—in an advisory capacity, Those discoveries were, by contract, ours. By law, we could use them as we saw fit without recompense to you, other than our regular fee. None the less, we chose to pay you a royalty because that is our normal policy with all our engineers and scientific research men. We find it more expedient to operate thus."

Bending was getting a little tired of Olcott's "none the less," but he didn't show it. "Are you trying to say that my Converter was invented during my employ with your company, Mr. Olcott?"

Olcott cleared his throat and shook his head. "No. Not necessarily. It is true that we might have a case on those grounds, but, under the circumstances, we feel it inexpedient to pursue such a course."

Which means, Bending thought, *that you don't have a case at all.* "Then just what are you driving at, Mr. Olcott?" he asked aloud.

"I'll put my cards on the table, Mr. Bending," Olcott said.

You've already said that, Bending thought, *and I've seen no evidence of it.* "Go ahead," he said.

"Thank you." He cleared his throat again. "If your invention is . . . ah . . . worth while, we are prepared to negotiate with you for use and/or purchase of it."

Bending had always disliked people who said or wrote "and/or," but he had no desire to antagonize the Power Utilities representative by showing personal pique. "Let me understand you clearly," he said. "Power Utilities wants to buy my rights to the Converter. Right?"

Olcott cleared his throat a third time. "In a word, yes. Provided, of course, that it is actually worth our while. Remember, we know almost nothing about it; the claims made for it by our . . . ah . . . anonymous informer are . . . well, ah . . . rather fantastic. But your reputation—" He let the sentence hang.

Bending was not at all immune to flattery. He grinned. "Do you mean that you came to me to talk about buying an invention you weren't even sure existed—just because of my reputation?"

"Frankly, yes," said Olcott. "Your reputation is . . . ah . . . shall we say, a good one in power engineering circles."

"Are you an engineer?" Bending asked suddenly.

Olcott blinked. "Why, no. No, I am not. I'm a lawyer. I thought you understood that."

"Sorry," Bending said. "I didn't. Most of the financial work around here is done through my Mr. Luckman. I'm not acquainted with the monetary end of the business."

Olcott smiled. "Quite all right. Evidently I am not as well known to you as you are to me. Not that it matters. Why did you ask?"

Bending stood up. "I'm going to show you something, Mr. Olcott," he said. "Would you care to come with me to the lab?"

Olcott was on his feet in a second. "I'd be glad to, Mr. Bending."

Bending led the man into the lab. "Over here," he said. At the far end of the laboratory was a thick-legged table cluttered with lengths of wire, vacuum tubes, transistors, a soldering gun, a couple of meters, and the other various paraphernalia of an electronics workshop. In the center of the table, surrounded by the clutter, sat an oblong box. It didn't look like much; it was just an eighteen by twelve by ten box, made of black plastic, featureless, except for a couple of dials and knobs on the top of it, and a pair of copper studs sticking out of the end.

Still, Olcott didn't look skeptical. Nor surprised. Evidently, his informant had had plenty of information. Or else his poker face was better than Bending had thought.

"This is your pilot model?" Olcott asked.

"One of them, yes. Want to watch it go through its paces?"

"Very much."

"O.K. First, though, just how good is your technical education? I

mean, how basic do I have to get?" Sam Bending was not exactly a diplomat.

Olcott, however, didn't look offended. "Let's say that if you keep it on the level of college freshman physics I'll get the general drift. All right?"

"Sure. I don't intend to get any more technical than that, anyway. I'm going to tell you *what* the Converter does—not *how*."

"Fair enough—for the moment. Go ahead."

"Right." Sam flipped a switch on the top of the box. "Takes a minute or so to warm up," he said.

When the "minute or so" had passed, Bending, who had been watching the meters on the top of the machine, said: "See this?" He pointed at a dial face. "That's the voltage. It's controlled by this vernier knob here." He turned the knob, and the needle on the voltmeter moved obligingly upwards. "Anything from ten to a thousand volts," he said. "Easily adjusted to suit your taste."

"I don't think I'd like the taste of a thousand volts," Olcott said solemnly. "Might affect the tongue adversely." Olcott didn't look particularly impressed. Why should he? Anyone can build a machine that can generate high voltage.

"Is that AC or DC?" he asked.

"DC," said Bending. "But it can easily be converted to AC. Depends on what you want to use it for."

Olcott nodded. "How much power does that thing deliver?"

Sam Bending had been waiting for that question. He delivered his answer with all the nonchalance of a man dropping a burnt match in an ash tray.

"Five hundred horsepower."

Olcott's face simply couldn't hold its expressionless expression against something like that. His lips twitched, and his eyes blinked. "Five hundred *what?*"

"I will not make the obvious pun," said Bending. "I said 'five hundred horsepower'—unquote. About three hundred and seventy-five kilowatts, maximum."

Olcott appeared to be unable to say anything. He simply stared at the small, innocuous-looking Converter. Bending was unable to decide whether Olcott was overawed by the truth or simply stricken dumb by what must sound like a monstrous lie.

Olcott licked his lips with the tip of his small, pink tongue. "Five hundred horsepower. Hm-m-m." He took a deep breath. "No wonder those copper studs are so thick."

"Yeah," said Bending. "If I short 'em across at low voltage, they get hot."

"Short them across?" Olcott's voice sounded harsh.

Bending was in his seventh heaven, and he showed it. His grin was running as high an energy output as that he claimed for the Converter. "Sure. The amperage is self-limiting. You can only draw about four hundred amps off the thing, no matter how low you put the voltage. When I said five hundred HP, I meant at a thou-

sand volts. As a matter of fact, the available power in horsepower is roughly half the voltage. But that only applies to this small model. A bigger one could supply more, of course."

"What does it weigh?" asked Olcott, in a hushed voice.

"Little over a hundred pounds," Bending said.

Olcott tore his eyes away from the fantastic little box and looked into Sam Bending's eyes. "May I ask where you're getting power like that?"

"Sure. Hydrogen fusion, same as the stellarator."

"It's powered by deuterium?"

Bending delivered his bombshell. "Nope. Water. Plain, ordinary aitch-two-oh. See those little vents at the side? They exhaust oxygen and helium. It burns about four hundred milligrams of water per hour at maximum capacity."

Olcott had either regained control of himself or had passed the saturation point; Sam couldn't tell which. Olcott said: "Where do you put the water?"

"Why put water in it?" Sam asked coolly. "That small whirring sound you hear isn't the hydrogen-helium conversion; it's a fan blowing air through a cooling coil. Even in the Sahara Desert there's enough moisture in the air to run this baby."

"And the fan is powered—"

". . . By the machine itself, naturally," said Bending. "It's a self-contained unit. Of course, with a really big unit, you might have to hire someone to hang out their laundry somewhere in the neighborhood, but only in case of emergencies."

"May I sit down?" asked Olcott. And, without waiting for Sam Bending's permission, he grabbed a nearby chair and sat. "Mr. Bending," he said, "what is the cost of one of those units?"

"Well, that one cost several hundred thousand dollars. But the thing could be mass produced for . . . oh, around fifteen hundred dollars. Maybe less."

Olcott absorbed that, blinked, and said: "Is it dangerous? I mean, could it explode, or does it give out radiation?"

"Well, you have to treat it with respect, of course," Bending said. He rubbed his big hands together in an unconscious gesture of triumph. "Just like any power source. But it won't explode; that I can guarantee. And there's no danger from radiation. All the power comes out as electric current."

Sam Bending remained silent while Olcott stared at the little black box. Finally, Olcott put his hands to his face and rubbed his eyes, as though he'd been too long without sleep. When he removed his hands, his eyes were focused on Bending.

"You realize," he said, "that we can't give you any sort of contract until this has been thoroughly checked by our own engineers and research men?"

"Obviously," said Sam Bending. "But—"

"Do you have a patent?" Olcott interrupted.

"It's pending," said Bending. "My lawyer thinks it will go through pretty quickly."

Olcott stood up abruptly. "Mr. Bending, if this machine is actually what you claim it to be—which, of course, we will have to determine for ourselves—I think that we can make you a handsome—a *very* handsome settlement."

"How much?" Bending asked flatly.

"For full rights—millions," said Olcott without hesitation. "That would be a . . . shall we say, an advance . . . an advance on the royalties."

"What, no bargaining?" Bending said, in a rather startled tone.

Olcott shook his head. "Mr. Bending, you know the value of such a device as well as I do. You're an intelligent man, and so am I. Haggling will get us nothing but wasted time. We want that machine—we *must* have that machine. And you know it. And I know you know it. Why should we quibble?

"I can't say: 'Name your price'; this thing is obviously worth a great deal more than even Power Utilities would be able to pay. Not even a corporation like ours can whip up a billion dollars without going bankrupt. What we pay you will have to be amortized over a period of years. But we—"

"Just a minute, Mr. Olcott," Bending interrupted. "Exactly what do you intend to do with the Converter if I sell it to you?"

Olcott hesitated. "Why . . . ah—" He paused. "Actually, I couldn't say," he said at last. "A decision like that would have to be made by the Board. Why?"

"How long do you think it would take you to get into production?"

"I . . . ah . . . frankly couldn't say," Olcott said cautiously. "Several years, I imagine.."

"Longer than that, I dare say," Bending said, with more than a touch of sarcasm. "As a matter of fact, you'd pretty much have to suppress the Converter, wouldn't you?"

Olcott looked at Bending, his face expressionless. "Of course. For a while. You know very well that this could ruin us."

"The automobile ruined the buggy-whip makers and threw thousands of blacksmiths out of work," Bending pointed out. "Such things are inevitable. Every new invention is likely to have an effect like that if it replaces something older. What do you think atomic energy would have done to coal mining if it weren't for the fact that coal is needed in the manufacture of steel? You can't let considerations like that stand in the way of technological progress, Mr. Olcott."

"Is it a question of money?" Olcott asked quietly.

Bending shook his head. "Not at all. We've already agreed that I could make as much as I want by selling it to you. No; it's just that I'm an idealist of sorts. I intend to manu-

facture the Converter myself, in order to make sure it gets into the hands of the people."

"I assure you, Mr. Bending, that Power Utilities would do just that—as soon as it became economically feasible for us to do so."

"I doubt it," Sam Bending said flatly. "If any group has control over the very thing that's going to put them out of business, they don't release it; they sit on it. Dictators, for instance, have throughout history, promised freedom to their people 'as soon as it was feasible'. Cincinnatus may have done it, but no one else has in the last twenty-five centuries.

"What do you suppose would have happened in the 1940s if the movie moguls of Hollywood had had the patent rights for television? How many other inventions actually have been held down simply because the interested parties *did* happen to get their hands on them first?

"No, Mr. Olcott; I don't think I can allow Power Utilities to have a finger in this pie or the public would never get a slice of it."

Olcott stood up slowly from the chair. "I see, Mr. Bending; you're quite frank about your views, anyway." He paused. "I shall have to talk this over with the Board. There must be some way of averting total disaster. If we find one, we'll let you know, Mr. Bending."

And that was it. That was the line that had stuck in the back of Bending's mind for two weeks. *If we find a way of averting total disaster, we'll let you know, Mr. Bending.*

And they evidently thought they'd found a way. For two weeks, there had been phone calls from officers of greater or lesser importance in Power Utilities, but they all seemed to think that if they could offer enough money, Sam Bending would capitulate. Finally, they had taken the decisive step of stealing the Converter. Bending wondered how they had known where it was; he had taken the precaution of concealing it, just in case there might be an attempt at robbery, and using it as power supply for the lab had seemed the best hiding place. But evidently someone at Power Utilities had read Poe's "Purloined Letter," too.

He smiled grimly. Even if the police didn't find any clues leading them to the thieves who'd broken into his lab, the boys at Power Utilities would find themselves in trouble. The second they started to open the Converter, it would begin to fuse. If they were quick, whoever opened it should be able to get away from it before it melted down into an unrecognizable mass.

Sam Bending took the tape from the playback and returned it to his files.

He wondered how the Power Utilities boys had managed to find where the Converter was. Checking the power that had been used by Bending Consultants? Possibly. It would show that less had been used in the past two weeks than was normally the case. Only the big building next door

was still using current from the power lines. Still, that would have meant that they had read the meter in the last two weeks, which, in turn, meant that they had been suspicious in the first place or they wouldn't have ordered an extra reading.

On the other hand, if—

The visiphone rang.

It was the phone with the unregistered number, a direct line that didn't go through his secretary's switchboard.

He flipped it on. "Yes?" He never bothered to identify himself on that phone; anyone who had the number knew who they were calling. The mild-looking, plumpish, blond-haired man whose face came onto the screen was immediately recognizable.

"How's everything, Mr. Bending?" he asked with cordial geniality.

"Fine, Mr. Trask," Bending answered automatically. "And you?"

"Reasonable, reasonable. I hear you had the police out your way this morning." There was a questioning look in his round blue eyes. "No trouble, I hope."

Sam understood the question behind the statement. Vernon Trask was the go-between for some of the biggest black market operators in the country. Bending didn't like to have to deal with him, but one had very little choice these days.

"No. No trouble. Burglary in the night. Someone opened my safe and picked up a few thousand dollars, is all."

"I see." Trask was obviously wondering whether some black market operator would be approached by a couple of burglars in the next few days—a couple of burglars trying to peddle apparatus and equipment that had been stolen from Bending. There still were crooks who thought that the black market dealt in stolen goods of that sort.

"Some of my instruments were smashed," Bending said, "but none of them are missing."

"I'm glad to hear that," Trask said. And Bending knew he meant it. The black market boys didn't like to have their customers robbed of scientific equipment; it might reflect back on them. "I just thought I'd explain about missing our appointment this morning," Trask went on. "It was unavoidable; something unexpected came up."

Trask was being cagey, as always. He didn't talk directly, even over a phone that wasn't supposed to be tapped. Bending understood, though. Some of the robotics equipment he'd contracted to get from Trask was supposed to have been delivered that morning, but when the delivery agent had seen the police car out front, he'd kept right on going naturally enough.

"That's all right, Mr. Trask," Bending said. "What with all this trouble this morning, it actually slipped my mind. Another time, perhaps."

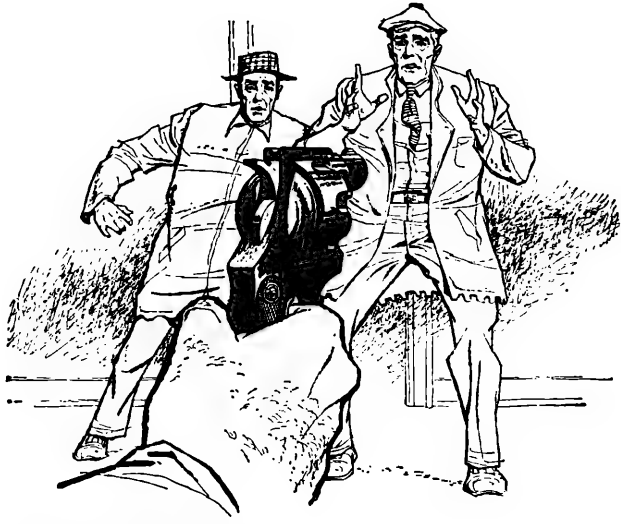
Trask nodded. "I'll try to make arrangements for a later date. Thanks a lot, Mr. Bending. Good-by."

Bending said good-by and cut the connection.

Samson Bending didn't like being forced to buy from the black market operators, but there was nothing else to do if one wanted certain pieces of equipment. During the "Tense War" of the late Sixties, the Federal and State governments had gone into a state of near-panic. The war that had begun in the Near East had flashed northwards to ignite the eternal Powder Keg of Europe. But there were no alliances, no general war; there were only periodic armed outbreaks, each one in turn threatening to turn into World War III. Each country found itself agreeing to an armistice with one country while trying to form an alliance with a second and defending itself from or attacking a third.

And yet, during it all, no one quite dared to use the Ultimate Weapons. There was plenty of strafing by fighter planes and sorties by small bomber squadrons, but there was none of the "massive retaliation" of World War II. There could be heard the rattle of small-arms fire and the rumble of tanks and the roar of field cannon, but not once was there the terrifying, all-enveloping blast of nuclear bombs.

But, at the time, no one knew that it wouldn't happen. The United



States and the Soviet Union hovered on the edges of the war, two colossi who hesitated to interfere directly for fear they would have to come to grips with each other.

The situation made the "Brinksmanship" of former Secretary Dulles look as safe as loafing in an easy-chair.

And the bureaucratic and legislative forces of the United States Government had reacted in a fairly predictable manner. The "security" guards around scientific research, which had been gradually diminishing towards the vanishing point, had suddenly been re-imposed—this time, even more stringently and rigidly than ever before.

Coupled with this was another force—apparently unrelated—which acted to tie in with the Federal security regulations. The juvenile delinquent gangs had begun to realize the value of science. Teen-age hoodlums armed with homemade pistols were dangerous enough in the Fifties; add aimed rockets and remote-control bombs to their armories, and you have an almost uncontrollable situation. Something had to be done, and various laws controlling the sale of scientific apparatus had been passed by the fifty states. And—as with their liquor and divorce laws—no two of the states had the same set of laws, and no one of them was without gaping flaws.

By the time the off-again-on-again wars in Europe had been stilled by the combined pressure of the United Nations—in which the United States and the Soviet Union co-operated wholeheartedly, working together in a way they had not done for over twenty years—the "scientific control laws" in the United States had combined to make scientific research almost impossible for the layman, and a matter of endless red tape, forms-in-octuplicate, licenses, permits, investigations, delays, and confusion for the professional.

The answer, of course, was the black market. What bootlegging had done for the average citizen in the Twenties, the black market was doing for scientists fifty years later.

The trouble was that, unlike the Volstead Act, the scientific prohibitions aroused no opposition from the man in the street. Indeed, he rather approved of them. He needed and wanted the products of scientific research, but he had a vague fear of the scientist—the "egghead." To his way of thinking, the laws were cleverly-designed restrictions promulgated by that marvelous epitome of humanity, the common man, to keep the mysterious scientists from meddling with things they oughtn't to.

The result was that the Latin American countries went into full swing, producing just those items which North American scientists couldn't get their hands on, because the laws stayed on the books. During the next ten years, they were modified slightly, but only very slightly; but the efforts to enforce them became more and more lax. By the time the late Seventies and early Eighties rolled around, the black marketeers

were doing very nicely, thank you, and any suggestion from scientists that the laws should be modified was met with an intensive counterpropaganda effort by the operators of the black market.

Actually, the word "operators" is a misnomer. It was known by the authorities at the time that there was only one ring operating; the market was too limited to allow for the big-time operations carried on by the liquor smugglers and distillers of half a century before.

Sam Bending naturally was forced to deal with the black market, just as everyone else engaged in research was; it was, for instance, the only source for a good many technical publications which had been put on the Restricted List. Sam wasn't as dependent on them as college and university research men were, simply because he was engaged in industrial work, which carried much higher priorities than educational work did.

Sam, however, was fed up with the whole mess, and would have given his eyeteeth to clear up the whole stupid farce.

Irritated by every petty distraction at his office, Sam Bending finally gave up trying to cope with anything for the rest of the day. At three in the afternoon, he told his secretary that he was going home, jammed his hat on his head, and went out to his car.

He got in, turned the switch, and listened to the deep hum of the electric motors inside. Somehow, it made him feel so good that the irritations of the day lessened a great deal. He grinned.

Power Utilities hadn't even thought of this hiding place. The Converter in the rear of the car gave the vehicle far more power than it needed, but the extra juice came in handy sometimes. The driving motors wouldn't take the full output of the generators, of course; the Converter hardly had to strain itself to drive the automobile at top speed, and, as long as there was traction, no grade could stall the car. Theoretically, it could climb straight up a wall.

Not that Sam Bending had any intention of climbing a wall with it.

He even had power left over for the sound-effects gadget and the air-heater that made the thing appear to be powered by an ordinary turbo-electric engine. He listened and smiled as the motors made satisfying sounds while he pulled out of the parking lot and into the street. He kept that pleased, self-satisfied grin on his face for six blocks.

And then he began to notice that someone was following him.

At first, he hadn't paid much attention to it. The car was just a common Ford Cruiser of the non-descript steel blue color that was so popular. But Bending had been conscious of its presence for several blocks. He looked carefully in the mirror.

Maybe he was wrong. Maybe it had been several cars of that same color that had moved in and out of

the traffic behind him. Well, he'd soon see.

He kept on going toward the North-South Expressway, and kept watching the steel-blue Ford, glancing at his rear view mirror every time he could afford to take his eyes off the traffic.

It moved back and forth, but it was never more than three cars behind him, and usually only one. Coincidence? Possibly.

At Humber Avenue, he turned left and drove southwards. The steel-blue Ford turned, too. Coincidence? Still possible.

He kept on going down Humber Avenue for ten blocks, until he came to the next cross street that would take him to a lower entrance to the North-South Expressway. He turned right, and the Ford followed.

At the ramp leading to the northbound side of the Expressway, the Ford was two cars behind.

Coincidence? No. That's pushing coincidence too far. If the men in the car had actually intended to go north on the Expressway, they would have gone on in the direction they had been taking when Bending first noticed them; they wouldn't have gone ten blocks south out of their way.

Bending's smile became grim. He had never liked the idea of being followed around, and, since the loss of one of his Converters, he was even touchier about the notion. Trouble was, his fancy, souped-up Lincoln was of no use to him at all. He could outrun them on a clear highway—but not on the crowded Expressway. Or, conversely, he could just keep on driving until they were forced to stop for fuel—but that could be a long and tedious trip if they had a full tank. And besides, they might make other arrangements before they went dry.

Well, there was another way.

He stayed on the Expressway for the next twenty miles, going far north of where he had intended to turn off. At the Marysville Exit, he went down the ramp. He had been waiting for a moment when the Ford would be a little farther behind than normal, but it hadn't come; at each exit, the driver of the trailing car would edge up, although he allowed himself to drop behind between exits. Whoever was driving the car knew what he was doing.

At the bottom of the ramp, Bending made a left turn and took the road into Marysville. It was a small town, not more than five or six thousand population, but it was big enough.

There weren't many cars on the streets that led off the main highway. Bending made a right turn and went down one of the quiet boulevards in the residential section. The steel-blue Ford dropped behind as they turned; they didn't want to make Bending suspicious, evidently.

He came to a quiet street parallel to the highway and made a left turn. As soon as he was out of sight of his pursuers, he shoved down on the accelerator. The car jumped ahead, slamming Bending back in his seat.

At the next corner, he turned left again. A glance in the mirror showed him that the Ford was just turning the previous corner.

Bending's heavy Lincoln swung around the corner at high speed and shot back toward the highway. At the next corner, he cut left once more, and the mirror showed that the Ford hadn't made it in time to see him turn.

They'd probably guess he'd gone left, so he made a right turn as soon as he hit the next street, and then made another left, then another right. Then he kept on going until he got to the highway.

A left turn put him back on the highway, headed toward the Expressway. The steel-blue car was nowhere in sight.

Bending sighed and headed back south towards home.

Sam Bending knew there was something wrong when he pulled up in front of his garage and pressed the button on the dashboard that was supposed to open the garage door. Nothing happened.

He climbed out of the car, went over to the door of the garage, and pushed the emergency button. The door remained obstinately shut.

Without stopping to wonder what had happened, he sprinted around to the front door of the house, unlocked it, and pressed the wall switch. The lights didn't come on, and he knew what had happened.

Trailing a stream of blue invective, he ran to the rear of the house and went down the basement stairs. Sure enough. Somebody had taken his house Converter, too.

And they hadn't even had the courtesy to shunt him back onto the power lines.

At his home, he had built more carefully than he had at the lab. He had rigged in a switch which would allow him to use either the Converter or the regular power sources, so that he could work on the Converter if he wanted to. His basement was almost a duplicate of his lab in the city, except that at home he built gadgets just for the fun of watching them work, while at the lab he was doing more serious research.

He went over to the cabinet where the switch was, opened it, and punched the relay button. The lights came on.

He stalked back up the stairs and headed for the visiphone. First, he dialed his patent attorney's office; he needed some advice. If Power Utilities had their hands on two out of three of his Converters, there might be some trouble over getting the patents through.

The attorney's secretary said he wasn't in, and she didn't know if he expected to be back that day. It was, she informed Bending rather archly, nearly five in the afternoon. Bending thanked her and hung up.

He dialed the man's home, but he wasn't there, either.

Sam Bending stuck a cigarette in his mouth, fired it up, walked over to his easy-chair and sat down to think.

According to the police, the first Converter had been stolen on Friday night. The second one had obviously been taken sometime this morning, while he was in the lab with the police.

That made sense. The first one they'd tried to open had fused, so they decided to try to get a second one. Only how had they known he had had more than one? He hadn't told anyone that he had three—or even two.

Well, no matter. They *had* found out. The question was, what did he do next? Inform the police of the two thefts or—

There was a car pulling up outside the house.

Sam stood up and glanced out the window. It was a steel-blue Ford.

By Heaven! Did they intend to steal the third Converter, too? And right in front of his eyes, before it even got decently dark?

Sam was so furious that he couldn't even think straight. When the two men climbed out of the car and started walking toward the house, Sam ran back into his study, pulled open his desk drawer, and took out the .38 Special he kept there. It was the work of seconds to thumb six cartridges into the chambers and swing the cylinder shut.

The door chime sounded.

Sam went back into the front room with the revolver in his jacket pocket and his hand ready to fire it.

"Who is it?" he called, in what he hoped was a steady voice.

"We're Special Agents of the FBI," said a voice. "May we see you for a few moments, Mr. Bending?"

"Certainly. Come on in; the door's unlocked." *Just walk in, you phonies! Just trot right on in,* he thought.

And they did. The two men walked in, removing their hats as they did so.

"We—" one of them began. He stopped when he saw that he was addressing a round, black hole that was only a fraction more than a third of an inch in diameter but looked much, *much* larger from his viewpoint.

"Get your hands in the air and turn around very slowly," said Bending. "Lean forward and brace your hands against the wall."

They did as they were told. Bending frisked them carefully and thoroughly, thankful that the two years he had spent in the Army hadn't been completely wasted. Neither one of them was carrying a gun.

Bending stepped back and pocketed his own weapon. "All right. You two can turn around now. If you want to try anything, come ahead—but I don't advise it."

The two men turned around. Neither of them was exactly a small man, but the two of them together didn't outweigh Samson Bending by more than fifty pounds.

"What's the idea of the gun, Mr. Bending?" the taller of the two asked. He seemed to be the spokesman for the team.

"I'll ask the questions," Bending said. "But first, I want to tell you that, in the first place, you can get in trouble for impersonating a Federal officer, and, in the second, I don't like being followed. So you just trot right back to the boys at Power Utilities and tell them that if they want to play rough, I am perfectly willing to do likewise. That if they come after me again, I'm going to do some very unpleasant things. Understand?"

"I think we understand," said the spokesman, still relatively unruffled. "But I don't think *you* do. Would you care to look at our credentials, Mr. Bending?"

"Credentials?" Sam looked startled. Had he made a mistake?

"That's right. May I take my billfold out?"

Bending took his gun out again. "Go ahead. But slowly."

The billfold came out slowly. Bending took it. The identification card and the small gold badge said very plainly that the man was a Special Agent of the Federal Bureau of Investigation.

"I . . . I'm sorry," Bending said weakly. I thought you were someone else. Some men were following me this afternoon, and—"

"That was us, Mr. Bending. Sorry."

"May I verify this?" Bending asked.

"Certainly. Go right ahead."

Bending phoned the local office of the FBI and verified the identities of the two men. When he cut off, he asked dazedly: "What was it you wanted?"

"Would you mind coming with us—downtown? We'd like to have you see some people."

"Am I under arrest?"

"No." The agent smiled a little. "I suppose, if we had to, we could get you for speeding and reckless driving; that was pretty fancy dodging you did. But we're not supposed to be traffic cops."

Sam smiled feebly. "What's this all about?"

"I haven't the faintest notion, Mr. Bending. Honestly. We were told to stick with you until we got word to pick you up. We got that word just shortly after you . . . hm-m-m . . . after you left us. Fortunately, we found you at home. It might have been difficult . . ."

"Can we go in my car?" Bending asked. "I'd rather not leave it unguarded just now."

"Certainly. I'll go with you, and Steve can follow." He paused. "But I'm afraid you'll have to take that revolver out of your pocket and put it away."

"Sure," Bending said. "Sure."

Bending's mind simply refused to function during the drive back to the city. The FBI agent beside him just sat silently while Sam drove the car.

Once, Sam asked: "Who is it that wants to see me?"

And the FBI man said: "Sorry, Mr. Bending; I can't answer any

questions. My job is over as soon as I deliver you."

A little later, Sam had another question. "Can you tell me where we're going, at least?"

"Oh--" the agent laughed, "sure. I thought I had. The General Post Office Building, on Kenmore Drive."

After that, Sam didn't say anything. That this whole affair had something to do with the Converter, Sam had no doubt whatsoever. But he couldn't see exactly what, and none of his wild speculations made sense.

He pulled up at last into the parking lot behind the Post Office Building. The second FBI man came up in the steel-blue Ford, and the three of them got out of the cars and went towards the building. It was quite dark by now, and the street lights were glowing against a faint falling of February mist. Bending, in spite of his topcoat, felt chilly.

They went in the back way, past the uniformed Postal Service guard, and took an elevator to the sixth floor. None of the three had anything to say. They walked down the hall, toward the only office that showed any light behind the frosted glass. The lettering on the glass simply said: *Conference Room A-6.*

The FBI man who had driven with Sam rapped on the door with gentle knuckles.

"Yes?" said a questioning voice from the other side.

"This is Hodsen, sir. Mr. Bending is with us."

The door opened, and Sam Bend-

ing felt mild shock as he saw who it was. He recognized the man from his news photos and TV appearances. It was the Honorable Bertram Condley, Secretary of Economics for the President of the United States.

"Come in, Mr. Bending," the Secretary said pleasantly. Unnecessarily, he added, "I'm Bertram Condley."

He held out his hand, and Sam took it. "It's a pleasure, Mr. Secretary."

Condley gave out with his best friendly-politico smile. "I'm sorry to have to drag you up here like this, Mr. Bending, but we felt it best this way."

Sam smiled back, with a trace of irony in the smile. "It's a pleasure, Mr. Secretary," he repeated.

Condley nodded, still smiling—but there was a spark in his eyes now. "I see we understand each other. Come on in; I want you to meet the others." He looked at the FBI men. "That's all. For now."

The Federal agents nodded and moved away into the dimness of the corridor.

"Come in, man, come in," the Secretary urged, opening the door wider.

Sam hesitated. The light within the room was none too bright. Then he stepped forward, following the Secretary.

The outer room was dark. Not too dark, but illuminated only by the dim light from the corridor and from the inner room. From that inner room, there was only a glow of light from the frosted glass panel of the door that separated the two rooms.

Condley closed the hall door, and, as Sam stepped forward toward the lighted door, held out a hand to stop him. "Just a moment," he whispered softly. "I think you ought to know what you're walking in to, Mr. Bending."

Bending stood stock-still. "Yes, sir?" he asked, questioningly.

"I suppose you know what this is all about?" Secretary Condley asked softly.

"The Converter, I imagine," Sam Bending said.

Condley nodded, his gray hair gleaming silver in the dim light. "Exactly. I'm sorry we had to drag you up here this way, Mr. Bending, but, in the circumstances, we felt it to be the best way." He took a breath. "Do you know why we called you here?"

"No," Sam said honestly.

Condley's head nodded again. "You're in for an argument, Mr. Bending. A very powerful one, I hope. We want to convince you of something." Again he paused. "Are you an open-minded man, Mr. Bending?"

Sam Bending followed the Secretary's lead, and kept his voice low. "I like to think so, Mr. Secretary." He recognized that Condley was preparing him for something, and he recognized that the preliminary statements were calculated to soften him. And he recognized the fact that they *did* soften him. All right—what was the argument?

"You're an engineer, Mr. Bending," Condley said, in the same low voice. "You have been trained to evaluate facts. All I ask is that you use that training. Now, let's get in there before *Tovarishch* Artomonov begins to think we might be stalling him."

Condley strode toward the door and grasped the knob with a firm hand. Sam Bending followed, wondering. Artomonov? Who was Artomonov? The Secretary of Economics had indicated, by his precise enunciation of *tovarishch,* that the man was a Russian—or at least a citizen of one of the Soviet satellites. Sam Bending took a deep breath and decided that he was prepared for almost anything.

There were four men seated around the conference table in the back room, and the most surprising thing, as far as Sam was concerned, was that he recognized only one of them. From the big buildup, he had had half a notion that the President himself might be there.

"Mr. Samson Bending, gentlemen," said Secretary Condley to the group. They all rose and made half-hearted attempts to smile, but Sam could see that they were watching him as though he had a live grenade in his pocket.

"Mr. Bending, I believe you know Mr. Richard Olcott," the Secretary said.

Bending gave the Power Utilities executive a sardonic smile, which was returned by a solemn nod of the head.

Sure I know you, you crook, Bending thought.

"And, around the table," Condley continued, "are Dr. Edward Larchmont, the research departmental head of Power Utilities—Dr. Stefan Vanderlin, of the United States Bureau of Standards—and Dr. Alexis Andreevich Artomonov, of the Soviet Socialist Republics' representative office at the United Nations."

Sam Bending managed not to blink in astonishment as the last man was introduced—a feat which took every milligram of his self-possession. He recognized the name; A. A. Artomonov, head of the United Nation's International Trade Bureau. What was *he* doing here?

"If you'll sit down, Mr. Bending," Condley was saying, "we can get to business."

Bending sat down, and the others sat with him. "May I say something before we go any further?" Sam Bending asked. "May I say that I think this is a rather irregular method of doing things and that I think I ought to see my lawyer."

Secretary Condley's eyes narrowed just the slightest. He was a heavy, jowl-faced, graying man who was known for his firmness in his official capacity. "At this stage of the game, Mr. Bending, there is no need for a lawyer. We merely want to explain something to you—we want you to get all the data. If, afterwards, you still want your lawyer, you'll be perfectly free to call him. Right now, we want you to listen with an open mind."

Bending thought it over. "All right. Go ahead."

"Very well. First, I'll agree that all this may seem a bit high-handed. But time was—and is—getting short." He glanced at Olcott, and the glance was not all friendliness. "The Government was notified about this almost too late; we have had to act fast. Almost *too* fast."

"I notified the Government as soon as I was sure of my facts," Olcott said, completely unflustered.

"That's as may be," Condley said. "The point is that we now have the problem on our hands, and we must find an equitable solution." He took a gold fountain pen from his pocket, and his strong, thick fingers began toying with it while his eyes remained on Sam Bending. "The fact that you have applied for a patent makes it imperative that we get the situation under control immediately."

Before Sam could answer, there was a knock on the outer door that came clearly into the rear room. Secretary Condley rose without saying a word and went out.

Dr. Larchmont, the Power Utilities physicist, decided to make small talk to bridge the hiatus. "That's a really beautiful piece of machinery you've built, Mr. Bending. Really remarkable." He was a small, flat-faced man with a fringe of dark hair around his otherwise naked scalp.

Sam looked a little startled. "You mean you opened a Converter up?"

Larchmont nodded. "I presume you are referring to the fusing device. We X-rayed the thing thoroughly before we opened it. These days, many devices are rigged to be self-destroying, but that, in itself is a specialized field. Most of them are traps that are rather easy to get around if one is expecting them and knows how to handle them. But the Converter itself, if I may say so, is one of the most original and elegant devices I have seen in many a day."

"Thanks," said Bending, with a touch of bitterness in his voice. "I—"

The door opened at that moment, and Secretary Condley came in followed by a tall, round-faced man with dark wavy hair and clear brown eyes.

"Jim!" Sam said in surprise.

The man was James Luckman, Sam Bending's business manager. "Hello, Sam. What's this all about? The FBI men who picked me up said I wasn't under arrest, but I had a hunch it was about as close as you can come without actual arrest."

Sam nodded. "Funny—I had that impression, too." He looked at Condley. "What's the idea, Condley? Jim doesn't know anything about this."

The Secretary managed to look unoffended at Bending's tone. "Possibly not. We can't be sure, of course, but—frankly, I'd be willing to accept your word." He paused. "But—you're not a businessman, Mr. Bending?" He made it only half a question.

"No. I leave that sort of thing up to Jim. Oh, I don't say I'm com-

pletely ignorant of the field; it's just that I'm not particularly interested, that's all. Why should I be?" He went on, half belligerently. "I've known and trusted Jim for years. He knows his business; I know my science. I know enough to be able to check the account books, and he knows enough to be able to understand a technical report. Right, Jim?"

Luckman looked bewildered. "Sure, Sam. But what's all this leading up to? I don't get it." He frowned suddenly. "Has someone accused me of cheating you?"

"No, no, no," Condley said rapidly. "Of course not. Nothing like that." He looked sharply at Luckman. "Do you know anything about the Converter?"

Jim Luckman glanced at Bending before replying. Bending's face remained expressionless. "Go ahead, Jim," he said, "square with him."

Luckman spread his hands. "I know that Sam was working on something he called a Converter. I don't know anything more about it than that. Sam keeps his ideas secret until he gets them to a marketable stage, which is all right with me. I have enough work to do, handling the stuff he's already patented, without worrying about anything that isn't salable yet. So?"

Condley nodded, then gestured toward a chair. "Sit down, Mr. Luckman. Do you know these other gentlemen?" he asked rhetorically. He proceeded to introduce the others. Sam Bending noted with satisfaction that Luckman looked rather puzzled when the Russian was introduced.

Condley himself sat down again, and said: "Well, we're all here. We're not going to make this formal, gentlemen, but I hope it won't develop into a heated argument, either. Let's try to keep our tempers.

"First, as to the Converter itself. We all know, with the possible exception of Mr. Luckman, what it does, but for his benefit, we'll go over that. The Converter, by means of what Dr. Larchmont has been wont to call 'a very elegant method', produces electrical power directly from the fusion of hydrogen into helium. A pilot model, with a total volume of a little more than one and one-quarter cubic feet, is capable of turning out up to five hundred horsepower, either DC or AC in a wide range of frequencies. The voltage can be regulated from zero to one thousand volts by simply setting a dial.

"The device is powered by using ordinary water as fuel. At full capacity, the Converter consumes approximately four hundred milligrams of water per hour, which can easily be drawn from the moisture of the air. The machine is thus self-fueling.

"Since the nuclear energy released is converted almost one hundred per cent into electrical current, there is no danger from radiation; since the process is, by its very nature, self-limiting, there is no danger of explosion. The worst that can happen is for the machine to burn out, and,

I understand, it won't do that unless it is purposely tampered with to make it do so.

"Finally, the device is so inexpensive to produce that it could be sold for about one-quarter of the price of an ordinary automobile." He stopped, cleared his throat, and glanced at Larchmont and Vanderlin. "Am I essentially correct, gentlemen?"

Larchmont nodded, and Vanderlin said, "That's about it."

Jim Luckman looked at Sam Bending in open admiration. "Wow," he said softly. "You're quite a genius, Sam."

"Very well, gentlemen," Condley continued, "we know what this device will do on a physical level. Now we must consider what it will do on an economic level. Have you considered what would happen if you put the Converter on the market, Mr. Bending?"

"Certainly," Bending said, with an angry glance at Olcott. "The Power Utilities would lose their pants. So what? I figure that any company which tries to steal and suppress inventions deserves a licking."

Secretary Condley glanced at Olcott as though he were trying to hold back a smile, then returned his gaze to Bending. "We won't quibble over the ethics of the situation, Mr. Bending. You are correct in saying that Power Utilities would be bankrupt. They couldn't stand the competition of what amounts to almost unlimited free power. And then what would happen, with every power company in the United States suddenly put out of business?"

Sam looked puzzled. "What difference would it make? People would just be getting their power from another source, that's all."

Richard Olcott leaned forward earnestly. "May I interject something here? I know you are angry with me, Mr. Bending—perhaps with good reason. But I'd like to point out something that you might not have recognized. Public Utilities and its co-operative independent companies are not owned by individuals. Much of the stock is owned by small shareholders who have only a few shares each. The several billion dollars that these companies are worth is spread out over the nation, not just centered with a few wealthy men. In addition, a great many shares are held by insurance companies and banks. Literally millions of people would lose money—just as surely as if it had been stolen from them—if this device went on the market."

Bending frowned. He hadn't thought of it in exactly that way. "Still," he said tentatively, "didn't blacksmiths and buggy-whip manufacturers and horse-breeders lose money after World War I?"

"Not to this extent," Olcott said, shaking his head. "This is not 1918, Mr. Bending. Sixty years ago, our economy was based on gold, not, as it is today on production and manpower, centered in the vast interlocking web of American industry."

Condley said: "Mr. Olcott said a moment ago that millions of people

would lose money just as surely as if it had been stolen from them. I think it would be more proper to say that the money will be destroyed, not stolen. A thief, after all, does put money back into circulation after he steals it. But when vast amounts of wealth are suddenly removed from circulation completely, the economic balance is disastrously upset."

Sam Bending was still frowning. His grandfather had been a small businessman in 1929—not fabulously wealthy, but certainly well off by the social standards of the day. Two years later, in 1931, he was broke, wiped out completely, happy and eager to accept any odd job he could get to support his family.

Sam's father had had to leave school during the Thirties and go to work in order to bring in enough money to keep the family going. Grandfather Bending, weakened by long hours of labor that he was physically unfit for, had become an invalid, and the entire support of the family had devolved upon Sam's father.

He could remember his dad talking about the breadlines and the free-soup kitchens. He could remember his grandmother, her hands crippled by arthritis, aggravated by long hours at a commercial sewing machine in a clothing center sweat-shop, just so she could bring in that little extra money that meant so much to her children and her invalid husband.

Could one invention bring all that back again? Could his own harmless-looking Converter plunge millions back into that kind of misery? It seemed hardly possible, but Sam couldn't banish the specter of the Great Depression from his mind.

"Just how far-reaching would this economic upset be?" he asked Condley.

Condley had taken out his gold fountain pen again and was rolling it between his palms. "Well, that's a question with a long answer, Mr. Bending. Let's begin small and watch it spread.

"Banks are pretty safe today, aren't they? The Federal Deposit Insurance Corporation insures all depositors for deposits up to twenty thousand dollars now. A bank is hedged in by so many legal fences that it is almost impossible for one to fail in the same way that they failed all over the country in the early Thirties. Even if one does fail, through the gross mismanagement or illegal activities of its governing board, the depositors don't get excited; they know they're covered. There hasn't been a really disastrous run on a bank for more than thirty years.

"But banks don't just keep their money in vaults; they invest it. And a significantly large percentage of that money is invested in power companies all over the nation. In an attempt to keep their heads above water, those banks would be forced to make up tremendous losses if Power Utilities failed overnight. It would force them to draw in outstanding loans for ready cash. It would mean turning in United States

Savings Bonds, which would put a tremendous strain on the Government.

"In spite of that, most banks won't be able to stay solvent because their other capital investments will be dropping rapidly in value. As Mr. Olcott said, our monetary system isn't based on gold, but on production and goods. If Power Utilities and its members fail, you and your machine will have destroyed—made worthless—several billion dollars worth of machinery and equipment. You will have thrown tens of thousands of people out of work. You will have cut the underpinnings from beneath the American dollar.

"And it won't stop there. What will happen to the companies that build the dynamos and the boilers and the atomic plants for the power companies? What will happen to the copper industry when the need for millions of miles of copper wire vanishes? They will all suffer tremendous setbacks, throwing tens of thousands more out of work and lowering the value of their stock drastically.

"The banks, then, will find their investments suddenly worth only a fraction of their former value. They'll fail wholesale. And you can see what that will do to the Federal Deposit Insurance Corporation and other insurance companies."

Sam Bending nodded slowly. He could see that. Insurance companies base their business on the prediction that a certain event—death, accident, or the failure of a bank—will happen to a certain percentage of their covered clients, and they adjust their rates accordingly. But something that would change a five-percent-failure rate to a fifty-percent-failure rate would break the company.

And the unemployment rate would go up even higher. And Sam thought of something the Secretary hadn't even mentioned. State and Federal Unemployment Insurance. What would that drain do to the treasuries of the various governments involved?

Sam Bending felt as if the thing were snowballing on him. Where would the State and Federal Governments get that money? Taxes? Don't be silly. How can you collect sales taxes when sales are dropping off because of unemployment? How can you get income taxes from depleted incomes? How can you charge luxury taxes when no one is buying luxuries?

Certainly essentials like food, rent, and clothing couldn't be taxed. People would buy as cheaply as possible, which would force down prices. Which would—

"Where would it go from there?" Sam asked Condley in a shaken voice.

Condley glanced over at the Russian. "I believe Dr. Artomonov can answer that one for you."

Artomonov was a red-faced, fleshy man with almost no hair and a huge, bristling, gray mustache. His eyes were a startling blue. "Mr. Bending," he said in excellent English, "you may recall that your depression of

the Thirties was not confined to America. All of Europe became involved. The same will happen again, to a greater degree, if your machine is released to the world at this time." He brushed at his mustache with a fingertip.

"You may wonder what I am doing here, Mr. Bending. You might think that the traditional rivalry which has existed between our countries for so many decades would preclude my being admitted to such a secret session as this one. I might have thought so, too, fifteen years ago. But when something threatens *both* our countries, the picture changes. We fought together during the Motherland War—what you call World War II—because of the common threat of German Nazi terrorism. We co-operated to suppress the brush-fires that threatened us in Europe and the Middle East during the so-called Tense War. In big things we must co-operate.

"Again we are both threatened by a common source, Mr. Bending, and again we must co-operate."

Sam Bending felt a chill. The thought that he and his machine were a threat as great as that, a threat to the two greatest nations of Earth, was appalling.

"I am not a scientist, Mr. Bending," the Russian went on. "My title comes from a degree in economics and political science, not in physical science. As soon as this machine was demonstrated to me, however, I could appreciate its power—not only physically, but economically. I immediately contacted my superiors in Moscow to discuss the problem.

"Naturally, we would like to know the . . . ah . . . 'elegant' principle behind its operation. Equally naturally"—he smiled politely at Secretary Condley—"you will not tell us. However, my superiors in Moscow assure me that we need not worry on that score; a machine identically similar to yours was invented by one of our brilliant young scientists at the University of Moscow over four years ago. As a patriot, of course, he was willing to have the machine suppressed, and no news of it has leaked out."

Sam Bending found it difficult to keep from smiling. *Sure,* he thought, *and a man named Popov invented radio, and Yablochkov invented the electric light.*

"You see, Mr. Bending," Dr. Artomonov continued, "while we do not have the unstable setup of money-based capitalism, and while we do not need to worry about such antiquated and dangerous things as fluctuating stock markets, we would still find your machine a threat. Communism is based on the work of the people; our economy is based on the labor of the working man. It is thus stable, because every man must work.

"But we, too, have a vast, power network, the destruction of which would cause the unemployment of millions of our citizens. The unemployment alone would cause repercussions all over the Soviet Republics which would be difficult to deal with.

We would eventually recover, of course, because of the inherent stability of our system, but the shock would not be good for us.

"The same thing would happen in every industrialized nation on Earth," Artomonov went on. "In my work with the United Nations, I have studied just such problems. European governments would fall overnight. In Germany, in the 1920s, it was cheaper to burn bundles of one-mark notes than it was to buy firewood with them. Such things will

be repeated, not only in the Germanies, but all over Europe.

"Some countries, of course, will not be so drastically effected. China, and other parts of Asia which have not built up a vast industrial system, will be affected only slightly. The South American countries still have a more or less agricultural economy and will not be bothered greatly.

"But the great industrial civilizations of East and West will collapse."

With one breath, Artomonov was saying that the Soviet Union could weather the storm, and with another he was hinting that it probably wouldn't. But Sam Bending could see the point in spite of the Russian's tortuous logic.

"I think that is all I have to say for the moment," Artomonov said, "except to emphasize one point. The Great Depression hit the world some fifty years ago. It was a terrible thing for everyone concerned. But it was as nothing at all—a mere zephyr of ill wind—compared to what the Depression of the Eighties will be if your machine goes on the market."

There was silence for a minute. Sam Bending was thinking hard, and the others could see it—and they knew there was no point in interrupting at that moment.

"Just a second," Sam said. "There's one thing that I don't really quite see. I can see that the situation you outline would develop if every power plant in America- or in the Soviet Union or Europe—were to be suddenly replaced by Converters. I can see that chaos would result." He paused, marshaling his thoughts, then went on, with a tinge of anger in his voice.

"But that's not the way it will work! You can't do a thing like that overnight. To mass produce the Converter will take time—factories will have to be tooled up for it, and all that. And distribution will take time. It seems to me that there would be plenty of time to adjust."

Condley started to say something, but Dr. Artomonov burst in explosively.

"Don't you see, Mr. Bending? The threat of the machine is enough! Even here in your own country, just the knowledge that such machines were to be made at some time in the immediate future would have a disastrous effect! Who would invest in Power Utilities if they knew that within a short time it would be bankrupt? No one would want to buy such stock, and those who had it would be frantically trying to sell what they had. The effect on the banking system would be the same as if the machine were already being used. Your Mr. Roosevelt pointed out that fear was the problem."

Bending frowned puzzledly. "I don't see—"

He was interrupted by Dr. Larchmont. "Let me see if I can't give you an analogy, Mr. Bending. Do you know anything about the so-called 'nerve gases'?"

"Some," admitted Sam. "Most of

them aren't gases; they're finely dispersed aerosols."

Larchmont nodded. "Have you any idea how much it takes to kill a man?"

"A drop or so of the aerosol on the skin is enough, I understand."

"That's right. Now, how can such a minute amount of poison damage a human being?"

Bending began to get a glimmer of what the man was driving at. "Well, I know that some of them suppress the enzymic action with acetylcholine, which means that the nerves simply act as though their synapses had been shorted through. It only takes a small percentage of that kind of damage to the nerve fibers to ruin the whole nervous system. The signals get jammed up and confused, and the whole mechanism ceases to function. The victim dies."

Larchmont nodded. "Now, as I understand it, our banking system is the vital nerve network of our economy. And our system is built on credit—faith, if you will. Destroy that faith—even a small percentage of it—and you destroy the system.

"If your machine were to go on the market, there would be no more faith in the present utilities system. Their stocks would be worthless long before your machine actually put them out of business. And that would hit our banking system the same way a nerve gas hits the nervous system. And the victim—the American economy—would die. And the nation, as a nation, would die with it."

"I see," said Bending slowly. He didn't like the picture at all; it was more frightening than he cared to admit, even to himself. He looked at his business manager. "What do you think, Jim?" he asked softly. He knew he could depend on Luckman.

Jim Luckman looked worried. "They're right, Sam. Clean, dead right. I know the investment pattern in this country, and I have an idea of what it must be abroad. This country would be in the middle of the worst depression in its history. At least we had Federal help during the Thirties—but there won't even *be* a United States Government if this hits. Nor, I think, will there be a Soviet government, in spite of what Dr. Artomonov's personal beliefs may be."

Significantly, the Russian economist said nothing.

Sam Bending closed his eyes. "I've worked on this thing for years," he said tensely. "It was . . . it *means* something to me. I invented it. I perfected it." His voice began to quaver just a little. "But if it's going to do . . . to do all that—" He paused and took a deep breath. "All right. I'll smash my apparatus and destroy my plans and forget about it."

Jim Luckman looked at Secretary Condley. "I don't think that would be fair. Sam's worked hard on this thing. He deserves recognition. And the people of Earth deserve to get this machine somehow. Can't something be worked out?"

"Certainly," said Condley. "In some countries, and in some eras,

dangerous inventions were suppressed by the simplest method. If it was discovered in time, the inventor was executed summarily, along with anyone else who knew the secret, and the invention was destroyed. The United States isn't that kind of country." He looked down at his hands and the gold pen again before he went on.

"Please don't misunderstand, Mr. Bending; we are not trying to keep the Converter under wraps forever. In the first place, I don't think it would be possible. What do you think, Dr. Vanderlin?"

The Bureau of Standards man said: "I doubt it. Granted, the Converter is not something one would accidentally stumble across, nor automatically deduce from the 'previous state of the art'. I'll admit frankly that I doubt if I would ever have thought of it. But I doubt gravely that it is so unique that it will never be rediscovered independently."

"So," said Condley, "we have no intent to hold it back on that score. And, in the second place, such an invention is too valuable to allow it to be lost.

"So here is our proposition. You will sell your rights to the Converter to Power Utilities. It won't even be patented in the usual sense; we can't allow the Converter to become public property at this time. We can't make it possible for just anyone to send in a quarter to the Patent Office to find out how it works. That's why we stopped the patent application.

"But the Government will see that a contract is written up which admits that you are the inventor of the Converter, and which will give you royalties on every unit built. High royalties.

"Under strict Government supervision, Power Utilities will proceed to liquidate their holdings—slowly, so that there will be no repercussions on an economic level. The danger lies, not in the Converter's replacing existing power equipment, but in the danger of its replacing them too quickly. But with care and control, the adjustment can be made slowly. The process will take about ten years, but you will receive a lump sum, plus a monthly payment, as an advance against future royalties."

"I see," said Bending slowly. "That sounds all right to me. What about you, Jim? What do you think?"

Jim Luckman was smiling again. "Sounds fine to me, Sam. We'll have to work out the terms of the contract, of course, but I think Mr. Olcott and I can see eye to eye."

Olcott seemed to wince a little. He knew he was over a barrel.

"I suppose I'll have to be sworn to secrecy, eh?" Bending asked. He was beginning to recover his poise.

Condley nodded. "You will." He made his characteristic pause, looking down at the gold pen and back up. "Mr. Bending, don't think that this is the first time this has happened. Yours is not the first dangerous invention that has come up. It just so happens that it's the most dangerous so far. We don't like to have to work this way, but we must. There was simply nothing else to do."

Sam Bending leaned back in his chair. "That's all right. To be perfectly honest, there are a lot of details that I still don't understand. But I recognize the fact that I'm simply not an economist; I can see the broad outlines plainly enough."

Dr. Artomonov smiled widely. "I do not understand the details of your machine, either, Mr. Bending, but I understand the broad outlines of its operations well enough to be frightened when I think of what it could do to world economy if it were to be dumped on the market at this time. I am happy to see that America, as well as Mother Russia, can produce patriots of a high order."

Sam gave him a smile. "Thanks." He didn't know quite what else to say to a statement like that. "But Jim, here, is going to spend the next several days trotting out facts and figures for me. I want to see just what would take place, if I can wrestle with that kind of data."

"Oh, brother!" said Jim Luckman softly. "Well, I'll try."

"I'll have the reports from the computers sent to you," Condley offered. "They show the whole collapse, step by step."

Artomonov cast a speculative glance in Condley's direction, but he said nothing.

"There's one other thing," Sam said flatly. "The Converter is my baby, and I want to go on working on it. I think Power Utilities might put me on as a permanent consultant, so that I could earn some of the money that's coming in over the next ten years. That way, my royalties won't suffer so much from the advance payments."

Jim Luckman grinned, and Richard Olcott said: "I thought you said you were no businessman, Mr. Bending."

"I may be ignorant," said Sam, "but I'm not stupid. What about it?"

Olcott glanced at Dr. Larchmont. The little scientist was beaming.

"Definitely," he said. "I want Mr. Bending to show me how he managed to dope that thing out. And, to be perfectly frank, there are a couple of things in there that I don't get at all."

"That's understandable," said Dr. Vanderlin. "We only had a few hours to look at the thing. Still, I must admit it's a lulu."

"That's not what I meant," Larchmont said. "There are some things in there that would take a long time to figure out without an explanation. I'll admit that—"

"Wait a minute," Bending interrupted. "You said 'a few hours', Dr. Vanderlin. You mean only since this morning?" He grinned. "What happened to the one you got Friday night? Did my fusing device work the first time?"

Vanderlin looked puzzledly at Larchmont. Larchmont said wonderingly: "Friday? You mean you had *two* pilot models?"

Olcott said: "Where was the other? We checked your power drain and saw you weren't using any at your house, so—"

"I had three models," Bending

said. "I've got one left in my car; you took one from my house, and the third was taken from my lab sometime Friday night. Somebody has it . . ."

Condley said: "Dr. Artomonov, do you know anything about this?"

The Russian shook his head. "Nothing." He looked plainly frightened. "I assure you, my government knew nothing of this."

Condley leaped to his feet, said: "Where are those FBI men?" and ran out the door.

"The black market," said Bending softly. "They found out somehow."

"And they've had three days to study it," Larchmont said. "It's too late now. That thing is probably somewhere in South America by this time."

Artmonov stood up, his face oddly pale. "You must excuse me, gentlemen. I must get in touch with Moscow immediately." He strode out of the room.

The four men remaining in the room just stared at each other for a long moment. There wasn't much else they could do.

THE END

IN TIMES TO COME

As mentioned in this month's editorial, next month's featured item will be the full-dress report on the Dean System Space Drive.

The cover will show an appropriate use of the device; the article will discuss what's happened in Dean's efforts to get some evaluation of his idea.

The simplest technique to establish that an experiment is not a repeatable experiment is to prevent, block, sidetrack, or otherwise inhibit all efforts to repeat it. Obviously, if no one tries to repeat it, it's an unrepeated experiment.

While the article discusses the Dean Drive and its consequences to conceptions of space exploitation, in many ways the more important problem is the question of the resistance to testing new ideas. The Space Drive problem is only in small part a problem of technology; primarily—it's an emotional problem!

THE EDITOR.

EGOCENTRIC

ORBIT

It took a long time for human beings to accept that our little piece of meteoric rubble wasn't the exact and absolute center of the Universe. It does appear that way, doesn't it? It may not take so long for a spaceman to learn . . .

By JOHN CORY

Illustrated by Gardner

EAR the end of his fifteenth orbit as Greenland slipped by noiselessly below, he made the routine measurements that tested the operation of his space capsule and checked the automatic instruments which would transmit their stored data to Earth on his next pass over Control. Everything normal; all mechanical devices were operating perfectly.

This information didn't surprise him, in fact, he really didn't even think about it. The previous orbits and the long simulated flights on Earth during training had made such checks routine and perfect results expected. The capsules were developed by exhaustive testing both on the ground and as empty satellites before entrusting them to carry animals and then the first human.

He returned to contemplation of the panorama passing below and above, although as he noted idly, above and below had lost some of their usual meaning. Since his capsule, like all heavenly bodies, was stable in position with respect to the entire universe and, thanks to Sir Isaac Newton and his laws, never changed, the Earth and the stars alternated over his head during each orbit. "Up" now meant whatever was in the direction of his head. He remembered that even during his initial orbit when the Earth first appeared overhead he accepted the fact as normal. He wondered if the other two had accepted it as easily.

For there had been two men hurled into orbit before he ventured into space. Two others who had also passed the rigorous three-year training period and were selected on the basis of over-all performance to precede him. He had known them both well and wondered again what had happened on their flights. Of course, they had both returned, depending upon what your definition of return was. The capsules in which they had ventured beyond Earth had returned them living. But this was to be expected, for even the considerable hazards of descent through the atmosphere and the terrible heating which occurred were successfully surmounted by the capsule.

Naturally, it had not been expected that the satellites would have to be brought down by command from the ground. But this, too, was part of the careful planning—radio control of the retro-rockets that move the satellite out of orbit by reducing its velocity. Of course, ground control was to be used only if the astronaut failed to ignite the retro-rockets himself. He remembered everyone's surprise and relief when the first capsule was recovered and its occupant found to be alive. They had assumed that in spite of all precautions he was dead because he had not fired the rockets on the fiftieth orbit and it was necessary to bring him down on the sixty-fifth.

Recovery alive only partially solved the mystery, for the rescuers and all others were met by a haughty, stony silence from the occupant. Batteries of tests confirmed an early

diagnosis: complete and utter withdrawal; absolute refusal to communicate. Therapy was unsuccessful.

The second attempt was similar in most respects, except that command return was made on the thirty-first orbit after the astronaut's failure to de-orbit at the end of the thirtieth. His incoherent babble of moons, stars, and worlds was no more helpful than the first.

Test after test confirmed that no obvious organic damage had been incurred by exposure outside of the Earth's protective atmosphere. Biopsy of even selected brain tissues seemed to show that microscopic cellular changes due to prolonged weightlessness or primary cosmic-ray bombardment, which had been suggested by some authorities, were unimportant. Somewhat reluctantly, it was decided to repeat the experiment a third time.

The launching was uneventful. He was sent into space with the precision he expected. The experience was exhilarating and, although he had anticipated each event in advance, he could not possibly have foreseen the overpowering feeling that came over him. Weightlessness he had experienced for brief periods during training, but nothing could match the heady impression of continuous freedom from gravity.

Earth passing overhead was also to be expected from the simple laws of celestial mechanics but his feeling as he watched it now was inexpressible. It occurred to him that perhaps this was indeed why he was here, because he could appreciate such experiences best. He had been told the stars would be bright, unblinking, and an infinitude in extent, but could mere descriptions or photographs convey the true seeing?

On his twenty-first orbit he completed his overseeing the entire surface of the planet in daylight. He had seen more of Earth than anyone able to tell about it, but only he had the true feeling of it. The continents were clearly visible, as were the oceans and both polar ice caps. The shapes were familiar but in only a remote way. A vague indistinctness borne of distance served to modify the outlines and he alone was seeing and understanding. On the dark side of the planet large cities were marked by indistinct light areas which paled to insignificance compared to the stars and his sun.

He speculated about the others who had only briefly experienced these sights. Undoubtedly they weren't as capable of fully grasping or appreciating any of these things as he was. It was quite clear that no one else but he could encompass the towering feeling of power and importance generated by being alone in the Universe.

At the end of the twenty-fifth orbit he disabled the radio control of the retro-rockets and sat back with satisfaction to await the next circuit of his Earth around Him.

THE END

WIZARD

By LARRY M. HARRIS

Although the Masquerade itself, as a necessary protection against non-telepaths, was not fully formulated until the late years of the Seventeenth Century, groups of telepaths-in-hiding existed long before that date. Whether such groups were the results of natural mutations, or whether they came into being due to some other cause, has not yet been fully determined, but that a group did exist in the district of Offenburg, in what is now Prussia, we are quite sure. The activities of the group appear to have begun, approximately, in the year 1594, but it was not until eleven years after that date that they achieved a signal triumph, the first and perhaps the last of its kind until the dissolution of the Masquerade in 2103.

—Excerpt from "A Short History of the Masquerade," by A. Milge, Crystal 704-54-368, Produced 2440.

JONAS came over the hill whistling as if he had not a care in the world —which was not even approximately true, he reflected happily. The state of complete and utter quiet was both foreign and slightly repugnant to him; he was never more pleased than when he had a job in hand, a job that involved a slight and unavoidable risk.

This time, of course, the risk was more than slight. Why, he thought happily, it was even possible for him to get killed, and most painfully, too! With a great deal of pleasure, he stood for a second at the crest of the hill, his hands on his hips, looking down at the town of Speyer as it baked in the May afternoon sunlight.

Jonas did not, in spite of his pose, look like the typical hero of folk tale or scribe's tome; he was not

* * *

"Behold the Tortoise: He maketh no progress unless he sticketh out his neck." But he maketh very little progress unless he pick the right time and place to "stick-eth out his neck"—which can be quite a sticky problem for a man in a medieval culture!

Illustrated by Schoenherr

seven feet tall, for instance, nor did he have a handsome, lovesome face with flashing blue eyes, or a broad-shouldered, narrow-waisted marvel of a figure. He was, instead, somewhat shorter than the average of men in Europe in 1605 and for some time thereafter. He had small, almost hidden eyes that seemed to see a great deal, but failed completely to make a fuss about the fact. And while his figure was just a trifle dumpy, his face completed the rhyme by being extraordinarily lumpy. The nose, as a matter of strict truth, was hard to distinguish from the other contusions, swellings and marks that covered the head.

Nor, of course, did he carry the sword of a great hero, or a noble. Jonas had no *von* to stick on his name, and he had never thought it worth his while to claim one and accept the tiny risk of disclosure. After all, a noble was only a man like other men.

And, besides, Jonas knew perfectly well that he had no need of a sword.

His adventures, too, were a little out of the common run of tales. Jonas had, he thought regretfully, few duels to look forward to, and he had even fewer to look back on. And, as a maid is won by face, figure and daring, and a wife by riches, position or prospects, there was a notable paucity of lissome ladies in Jonas' career.

All in all, he thought sadly, he was not a *usual* hero.

But he refused to let the thought spoil his enjoyment. After all, he was a hero, though of his own unique kind; there was no denying that. And, in his own way, he had his reward. He took one hand off his hip to scratch at the top of his head, wondering briefly if he had managed to pick up lice in the last town he had visited, and he took another look at the city.

Speyer seemed a lot better, at first glance, than some of the other places Jonas had visited. For one thing, it had a full town hall, built—no less—of honest stone, and probably a relict of the Roman times. There was the parish church, of course, a good solid wooden structure, and a collection of houses strung along the dirt paths of the town. The houses of the rich were, naturally, wooden; the poor built of baked mud. There were a great many baked-mud structures, and only one wooden one, besides the church, that Jonas could see.

The paths were winding, but comparatively free from slop. That was pleasing, he told himself. And the buildings themselves, wood, mud and stone, clustered in the valley below him as if they were afraid, and needed each other's protection.

Which, in a way, they did. Jonas reflected on that a trifle grimly, thinking of the Holy Inquisition with its hierarchy of priests and lay folk, busily working in Speyer just as it worked in every other town throughout Offenburg, and throughout the civilized world.

Ordinarily, he would not have given it a thought, beyond a passing

sigh for the ways of the world; he had other business. But now—

He grinned to himself, and the grin turned to a laugh as he started down the hill. The grislier methods of the Inquisitorial process were well-known to him by reputation, and soon he might be testing them out for himself. There was absolutely no way to be sure.

That thought pleased him greatly; after all, he told himself, there was nothing like a little danger to spice the boring business of living. By the time he reached the bottom of the hill, he was whistling loudly.

He stopped at the first house, a mud construction with a badly-carpentered wooden door and a single bare window that looked out on the street. It smelled, but Jonas went up to the door bravely and knocked.

There was no answer. He went on whistling *"Fortuna plango vulnera"* under his breath, and after a time he knocked again.

This time he heard movement inside the house, and nodded to himself in a satisfied fashion. But almost a minute passed before the head of an old woman showed itself at the window. She was really extraordinarily ugly, he thought. She wore a bonnet that did nothing whatever to enhance her doubtful, wrinkled charms, or to conceal them; and besides, it was dirty.

"Nobody's here," she said in the voice of a very venemous toad. "Go away."

Jonas smiled at her. It was an effort. "Madam—" he began politely.

"Nobody's home," she repeated, drawing slightly back from the window. "You go away, now."

"Ah," Jonas said pleasantly. "But you're home, aren't you?"

The old woman frowned at him suspiciously. "Now," she said vaguely. "Well."

"This *is* your house?" he said. "The house where you live?"

"Never saw you before," the old woman said.

"That's right," Jonas said equably.

"You come to turn me out?" she demanded. Her eyebrows—which were almost as big and black as her ancient mustache—came down over glittering little eyes. "I hold this house free and proper," she said in a determined roar, "and nobody can take it from me. It belongs to me, and to my children, and to their children, and to the children of those children—"

The catalogue seemed likely to go on forever. "Exactly," Jonas said hastily.

"Well, then," the old woman said, and started to draw back.

Jonas gestured lazily with one hand. "Wait," he said. "I am not going to take your house away from you, madam. I am only here to ask you a question."

"Question?" she said. "You come from Herr Knupf? I'm an old woman but I do no wrong, and there is no one can accuse me of heresy. I am in church every week, and more

than once; I keep peace with my neighbors and there's none can say a mystery about me—"

The woman, Jonas thought, was full to the eyebrows with words. Probably, he told himself, trying to be fair, she didn't have anyone to talk to, until a stranger came along.

He sighed briefly. "I do not come from the Inquisitor," he said truthfully, "nor is my question one that should cause you alarm."

The old woman pondered for a minute. She leaned her elbows on the window sill, getting them muddy. But that, Jonas thought, didn't seem to matter to this creature, apparently.

"Ask," she said at last.

Jonas put on his most pleasant expression. "Madam," he said, "I wish to know if there be any family in this town to give room to a wayfarer —understanding, of course, that the wayfarer would insist on paying. Paying well," he added.

The old woman blinked. "You looking for an inn?" she said. "An inn in this town?" The idea appeared to strike her as the very height of idiocy. She covered her face with her hands and shook. After a second Jonas discovered that she was laughing. He waited patiently until the fit had left her.

"Not an inn," he said. "There is no inn here, I know. But a family willing to take in a stranger—"

"Strangers are seldom here," she said. "Herr Knupf watches his flock with zeal."

Which meant, Jonas reflected, that he was in a fair way to get himself burned as a heretic unless he watched his step carefully. "Herr Knupf's fame has reached my own country, far away," he said with some truth. "Nevertheless, a family which—"

"Wait," she said. "You have said that you will pay well. Yet you do not appear rich."

Jonas understood. Fishing in his sewn pocket, he withdrew a single, shiny coin. "I also wish," he said smoothly, "to pay for any help I may receive—such as the answering of an innocent question, a question in which the respected Inquisitor Knupf can have no interest whatever."

The old woman's eyes went to the coin and stayed there. "Well," she said. "It is said that the family called Scharpe has a house too large for them, now that the elder son is gone; there is only the man, his wife and a daughter. It is said that the man is in need of money; he would accept payment, were it generous, in return for sharing room in his house."

"I would be most grateful," Jonas murmured. He passed the coin over; the old woman's hand snatched it and closed on it. "Where might I find this family?" he said.

"It is now late in the afternoon," the old woman said. "Perhaps they are at home. You will see a path which takes you to the left; follow it until you reach the last house. Knock at the door."

"I shall," Jonas said. "and many thanks."

The old woman, still clutching her

coin, disappeared from the window as if someone had yanked her back. Jonas turned with relief and got back on the path, but it stank quite as badly as the house had.

He endured the stench—heroically.

Scharpe proved to be a barrel-shaped man who was unaccountably cheerless, as if the inside structure had been carefully removed, and then replaced by sawdust, Jonas thought. Even the offer of seven kroner for a single week's stay failed to produce the delirious joy Jonas had expected.

"The money is needed," Scharpe said in a dour, bass voice, staring off past Jonas' left ear at the darkening sky. "And for the money, you will be welcome. I must take your word that you are not dangerous; I can only pray that you do not betray that trust."

It was far from a warm welcome, but Jonas was satisfied with it. "I shall work to do you good," he said, "and not evil."

"Stranger," Scharpe said, "work for your own good; do nothing for me. This is an accursed family; there is no good to be done to me, or my wife or child."

Jonas tried to look reassuring. He thought of several things to say about the sunny side of life, and decided on none of them. "My sympathy—" he began.

"Your sympathy may endanger you," Scharpe said. "My son is gone; I pray that there is an end to it."

Jonas peered once into the mind of the man, and recoiled violently; but he had enough, in that one glimpse, to tell him the reason for Scharpe's misery. And it was quite reason enough, he thought.

"Herr Knupf—"

"We do not mention that name," Scharpe said. "My wife has resigned herself to what has happened; I am not so wise."

"I promise you," Jonas said earnestly, "that you will be in no danger from me. No, more: that I will help you out of your difficulties, and ensure your peace."

"Then you are an angel from Heaven," Scharpe said bitterly. "There is no other help, while the Inquisitor remains and our sons become suspect to his rages."

Jonas shook his head. "There is help," he said, "and you will find it. Your son is gone; accused, questioned, confessed and burnt. But there will be no more."

Scharpe looked at him for a long time. "Come with me," he said at last, and led the way into his mud house. Inside, there was only one large room, but it seemed spacious enough for four. Three pallets lay against the far right wall, a single one against the left. Scharpe went to the back of the house, near the single bed. "This will be yours," he said, "while you are with us. It is poor but it is all we can offer."

"I am honored," Jonas said.

"Here we are alone," Scharpe went on, his voice lowering. "My wife and daughter have gone to visit a neighbor, for they have not yet closed us off entirely from all human contact."

He grimaced. Jonas peered into the mind again, very gently, but the mad roiling of pain and memory there was too strong for him, and he returned.

"If you have anything to say to me," Scharpe said, "tell me now. No one can hear us, not Herr Knupf himself."

"To say to you?"

"Regarding your plan," Scharpe said. "Surely you have a plan. And if I may play any part in it—"

Jonas blinked. "Plan?" he said.

"Of course," Scharpe said. "You speak of an end to troubles, an end to the Inquisition and the burnings, an end to the question. And so you must have a plan for ridding us of Herr Knupf; one which you will tell me."

Jonas shook his head. "I have no plan," he said.

"It means danger," Scharpe pressed him. "But I do not mind danger, in such a cause. I am not vengeful, but my son was no wizard. Yet the Inquisitor took him and had a confession from him; you know well the worth of such confessions. And soon there will be others, for when the curse strikes a family it does not stop with one member." He tightened his lips. "It is not for myself I am afraid," he said.

Jonas nodded. "Were there such a plan," he said, "be assured I would tell you."

"But—"

"There is none," Jonas said. "Herr Knupf shall remain, for all that I can do, while the earth remains."

Scharpe opened his mouth, shut it again, and then shrugged. "I see," he said at last. "You do not trust me. Perhaps you are wise. I might talk foolishly; I am an old man; older, in this last month, than in all my other years."

"Believe me," Jonas began. "I—"

"Let it be," Scharpe said quietly. "I believe you. If that is what you want, I believe you." He shrugged again, moving out toward the door of the hut. "And, in any case," he said, "the money is needed. For there are fines to pay, and costs of the Inquisition."

"I understand," Jonas said helplessly.

Scharpe turned and looked him full in the face. In the big man's eyes, bitterness and hopelessness glittered. "I am sure you do," he said, and turned again toward the door.

The others he met only briefly. Frau Scharpe was a little woman with the face of a walnut, who looked as if she had never really been cheerful. Her son's death, he saw when he lookd into her mind, had not come as a surprise to her; it was one more unhappy event, in a lifetime in which she had expected nothing else. Unhappiness, she told herself, was her portion in this life; in the Life Above, things would be different.

Jonas had met the type before, and was uninterested in going further. But Ilse Scharpe was something else entirely. She did not say a word to him, coming into the house that evening, a pace behind her mother, like an obedient slave. She was about seventeen, and her mind was as fresh and clean and pretty as her face and figure. Jonas started musing on Heroes again, but he never had the chance to make a move toward her. She had a very nice smile, and from memories in the others' minds he could hear her voice, low and quiet and entirely satisfactory.

Jonas sighed. The job, he told himself sternly, came first. And afterward—

Though, come to think of it, there wouldn't be an afterward.

The evening meal was simple. There was a single dish of meat and some sort of beans; after it had been eaten, and the darkness outside grew to full night, it was time to retire. Jonas went over to his pallet, removed his jerkin and shoes, and lay down. He heard the others readying themselves for sleep, but he did not look into their minds. Soon they were asleep and breathing heavily.

But Jonas stayed awake for a while.

"It's really too bad we can't work this sort of thing at a distance," Claerten's voice said suddenly. "But then, none of us has ever met the man, and you can't read a mind if you haven't had some physical contact with the man who owns it."

"It is too bad," Jonas agreed politely. Five hundred miles away Claerten chuckled, and the linkage of minds transmitted the amusement to Jonas.

"You don't think so, at any rate,"

the director said. "You're having adventures—and a fine time. It's the sort of thing you like, after all."

Jonas shrugged mentally. "I suppose so," he said. "I like to work on my own, do my own job—"

"And it's got you into trouble before," Claerten said. "But you can't afford any mistakes this time."

"I know the risk perfectly well," Jonas thought back.

Claerten's thought carried a wry echo. "You know the risk to yourself," he told Jonas, "and you've accepted that. You rather like it, as a matter of fact. But you haven't thought of the risk to the rest of us—and to the town you're in."

Jonas sent a thought of uncertainty: "What?"

Claerten transmitted the entire picture in one sudden blow: the chance that Jonas would not be killed immediately, but would be discovered; the chance that the Inquisitor would get from him the secret of the Brotherhood—

"That's impossible," Jonas said.

Claerten sounded resigned. "Nothing's impossible," he said. "And if the secret is let out—why, the Brotherhood is finished. Finished before it's barely started. Because you can read a man's mind doesn't mean you can defeat him, Jonas."

"But you know what he's going to do—"

"And if he's got you in a wooden house and he's going to burn it down, what good does your knowledge do you?"

"But you can transmit false thoughts—"

"And confuse him," Claerten said. "Fine. Fine. If you've ever met the man before. And suppose you haven't? Then you can't transmit a thing to him; you're trapped in the house, remember, and the fire's started. What good's your telepathy?"

"But—"

"It's a sense," Claerten said. "Like any other sense. But it isn't magic any more than your eyes are magic. They're . . . given by God, if you like; they grow, they develop. So the ability to read minds, to transmit thought is given by God. No one knows why or how. Fifteen of us have developed it; fifteen who are members of the Brotherhood. But there are others—"

"Of course," Jonas thought impatiently. "I know all that."

"You know a great deal," Claerten said, "which I sometimes find it necessary to bring to your attention."

"I've done all right," Jonas thought sullenly.

Claerten agreed. "Of course you have," he thought, "but you're not the most careful of men; and great care is needed. The Brotherhood must grow. This new sense is of great value; perhaps we can learn to teach it to others in time, though we have had little success with that. But at the least we can maintain our numbers, pass the gift on to our children—"

"If it is possible," Jonas said.

"We must try," Claerten said.

"And your job is enormously important."

"I know that," Jonas thought wearily.

"You have accomplished the first step," Claerten said. "Do nothing rash."

"Of course not."

"You will not accept help—"

"I will not," Jonas thought.

"Very well, then," Claerten thought. There was the ghost of another idea; Jonas caught it.

"I know perfectly well that you wouldn't have sent me if there were any other available member," he thought. "There is no need to remind me."

"I'm sorry," Claerten thought. He radiated caution, worry, patience; Jonas turned in the bed and cut off from the director with a grunt. He was tired; long-distance linkages were a drain on the body's energy, even when the person involved was easy to visualize. But Claerten had insisted on intermittent contact.

If there were such a thing as total contact, constant contact over a period of days, Jonas thought, Claerten would use me for a puppet, a veritable Punch among men; he would override me and take me over the way a traveling entertainer rules his jointed dolls.

And that would be a fine thing for a hero, wouldn't it?

He grimaced in the darkness. Constant contact was simply impossible; any reaching out used energy, and linking up for a long period simply burned the body up like a long starvation; it was as bad as a penance.

Jonas was thankful for that.

And for the rest—well, he thought resignedly, what was a hero without a quest? And what was a quest without someone to set it?

But that the someone had to be Claerten, with his caution and his old-woman worry—

Jonas sighed and set about the business of falling asleep.

The days passed slowly, with great boredom. Jonas made contact twice with Claerten, who told him over and over to wait, to do nothing: "The next move is coming soon; do nothing to hurry it. You can only upset the natural course of events."

"Which is unwise," Jonas thought bitterly, "and risky, and very probably impious as well."

"As for the piety," Claerten thought, "I leave that to the priests and the women. But wisdom and caution are my task, Jonas, as they must be yours."

"I—"

"You are a hero, out on an adventure," Claerten thought witheringly. "But set your course with sense, travel it with caution; you will the more certainly arrive."

"Philosophy for a dull plodder," Jonas thought.

"Philosophy for one of the Brotherhood," Claerten thought back. "We are tiny as yet; we have no force. You can add to that force, add greatly; but you must be wise."

"I must be slow, you mean."

"I mean what I have told you," Claerten thought. "And—one more thing, Jonas."

"Yes?"

"The daughter," Claerten thought. "I have seen her in your mind. Ignore the wench. Is she worth what your task is worth?"

"I never—"

"Then my caution is unnecessary," Claerten thought. "But, in the unlikely case that she might tempt you to folly—remember it."

Jonas, who disliked irony, sighed and cut off.

That was the third night. During the days he had done the things he had planned; he did no work with the Scharpes, but let them find him, when they returned to the hut of an evening, reciting strange words. Once he built a small outdoor fire and walked around it, widdershins, for several minutes. Then he put the fire out and went inside. He wasn't sure whether or not anyone was watching him, that time.

But sooner or later it had to happen.

And it happened, as Jonas had suspected it would, through the wife. Mrs. Scharpe came back to the hut early one day, threw a frightened glance at Jonas sitting in a corner doing nothing at all, and left.

He hardly needed to see into her mind to know where she was going.

And twenty minutes later two men came to the hut. They stood in the opened doorway, Mrs. Scharpe behind them twittering like an ancient bird, and Jonas watched them boredly. They were giants, for this part of the world, almost six feet tall, with great hands and jaws. One had black, coarse hair on his head and a stubble about his face; the other was bald as an egg.

"That's him," Mrs. Scharpe said—just a trifle hesitantly. "He's the one. He came to stay with us and we didn't know—"

The man with black hair said: "Uh. Gur."

"Herr Knupf said take him back," the bald one added.

"Herr Knupf?" Jonas said, entering the conversation with a light, pleasant tone.

"He's the . . . the—" Mrs. Scharpe tried to get the word out, and then pushed by the two men and came into the hut. "I didn't want to but there's something strange, and we can't afford any suspicion, and—"

Jonas realized slowly that she was crying as she looked at him. "It's all right," he said uncomfortably.

"You're—"

"I'll be perfectly all right," Jonas said. He stood up. "This Herr Knupf," he said. "He wants to see me?"

"He said bring you along," the bald man told him.

The black-haired man nodded very slowly. "Gur," he said.

Jonas sighed and went forward to meet the two big men, leaving Mrs. Scharpe sobbing in the background. The poor woman felt terrible, he knew; but there was nothing he could do about that. "Then let us go," he

said, and marched off. Feeling that one more effect wouldn't hurt, he led the way to the Town Hall; let them figure out how he had known just where to go, he thought.

Their minds were very, very boring, and quite blank. Herr Knupf, Jonas reflected, might be a definite relief.

First there was the cell, which was in the basement of the Town Hall. It was damp and the air was not too good, but there were compensations. Rats, for instance. Jonas told himself, after the first couple of hours, that he simply wouldn't have known what to do without the rats. Trying to trap and kill them, with no weapons beyond his bare hands—even an eating knife he had carried in his jerkin had been taken away, leaving him to the uncomfortable reflection that he was going to have to dine with his fingers—was a pastime that occupied him for several hours on the first day.

On the second day, the rats began to bore him. By that evening, they were annoying him, and when the third day dawned bright and warm—as near as he could tell from the tiny slip of window at the top of his cell—Jonas was telling himself that any move at all was a move in the right direction.

He set up a shout for one of the guards. The bald one had brought his meals every day, but the black-haired one was the man who checked his cell at night. For once, Jonas thought, he was lucky; the bald man appeared, after some fifteen minutes of screaming and cursing. Jonas was not at all sure whether the black-haired man understood language; there was little trace of it in his mind, and virtually nothing that might be called intelligence. With the bald man, at least, he could communicate.

"What's wanted?" the guard said sourly, staring through the bars.

Jonas smiled softly. "You know why I'm here, don't you?" he said in a voice as close to silky as he could make it.

"You?" the bald man said. "You're here. In a cell."

"That's right," Jonas said patiently. He rubbed at his face. "Do you know why I was put here?"

"You—cast spells. You make things happen."

"That's right," Jonas said, smiling again. "I'm a wizard. A warlock. That's what they say, isn't it?"

"You—make things happen," the bald man said.

But he had the basic idea; Jonas checked that in his mind. "Very well," he said. "Now, I wish to see Herr Knupf."

"The Inquisitor calls you when he wants you," the bald man said.

"Now," Jonas said.

"When he wants—"

"If I am a wizard," Jonas said, "I have powers. Strange powers. I could make you—" He reflected for a minute. "I could make you into a beetle, and squash you underfoot. As a matter of fact, I think I will." He gazed reflectively at the bald man, who gulped and turned a little pale.

"You . . . you are in a cell," he said at last. "Locked up."

"Do you think that will stop me?" Jonas said. He came to the barred door, still smiling.

"You would not dare—"

"Why not?" Jonas asked. "What have I got to lose?"

He raised one hand, clawing the fingers slightly. He took a deep breath, as if he were about to spit out an incantation. His eyes glittered. The smile broadened.

A long second passed.

"I will tell the Inquisitor you wish to see him," the bald guard said.

Jonas relaxed and stepped back. "I shall be most grateful," he said formally. The guard turned and started to walk away. Five paces down the corridor, the walk turned into a run. Jonas watched him go, and then sat down on his louse-infested cot to await developments.

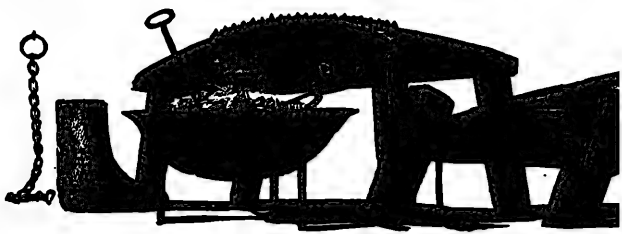
The minutes ticked by endlessly. He thought of trying to reach Claerten, but decided, not entirely with regret, that the contact would use up too much energy. And he needed all the energy he could conserve now. The second step had been taken—the fact that he sat in a cell in prison was proof of that.

The third step—the all-important final step—was about to begin.

Georg Knupf was a tall man with skin the color and apparent texture of good leather. He had a face like an eagle, and his eyes were ice-blue. He moved his thin, strong hands gently back and forth on the table that held his papers, inkstand and pen, and said in a voice like audible sandpaper: "You wanted to see me."

"True," Jonas said pleasantly. Knupf was sitting behind the table. Jonas had not been asked to sit; he remained standing, and he was reasonably sure that his feet were going to hurt in a minute. He tried not to let the thought disturb him.

The man's mind was like his office in the Town Hall: sparsely furnished, almost austere, but with all the necessaries laid out for easy access. Underneath the strength and iron of the mind Jonas caught the spark glowing, and nearly smiled. In spite of the reports, in spite of logic, there had been a chance the Brotherhood had guessed wrongly about this man.



Now that chance was gone, and the Brotherhood was right again.

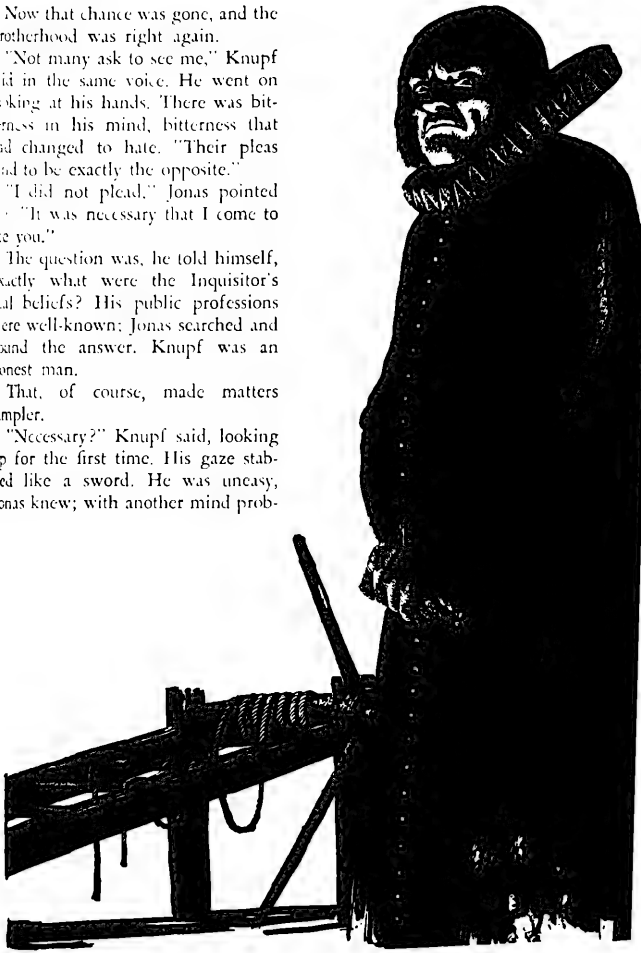
"Not many ask to see me," Knupf said in the same voice. He went on looking at his hands. There was bitterness in his mind, bitterness that had changed to hate. "Their pleas used to be exactly the opposite."

"I did not plead," Jonas pointed out. "It was necessary that I come to see you."

The question was, he told himself, exactly what were the Inquisitor's real beliefs? His public professions were well-known; Jonas searched and found the answer. Knupf was an honest man.

That, of course, made matters simpler.

"Necessary?" Knupf said, looking up for the first time. His gaze stabbed like a sword. He was uneasy, Jonas knew; with another mind prob-



WIZARD

ing his, he could not help but be uneasy. But he could not find a cause; it would never occur to him. And he controlled his feelings superbly.

"You believe that I am a wizard," Jonas said.

Knupf waited a bare second, and then nodded.

"I can do many things," Jonas went on. "It was necessary that I bring these to your attention—and prove to you that they are not wizardry, or magic."

"Many have told me," Knupf muttered, "that their feats were natural. It is a common defense."

"So I have heard," Jonas said easily. "But I shall prove what I say."

"I am under no compulsion to listen to you," Knupf said after a pause.

Jonas shrugged. His feet *were* beginning to hurt, he realized; he sighed briefly, but there was no time or attention to spare for them. "I could only see you by having myself accused of witchcraft," he said. "In that way, you would be forced to listen to me. You may listen now, or later at a full hearing of the Inquisitor's Court."

"And I am to take my choice?" Knupf said. He smiled briefly; his face remained cold. The strong hands moved on the tabletop.

"It is a matter of indifference to me," Jonas said. "But the wait becomes boring, after a time."

Knupf's eyebrows went up. "Boring is—hardly the word others would use."

"I am not like others," Jonas said. He wished for Claerten suddenly, but there was no way to reach him safely. He had to make his move alone.

Well, he told himself, that was what he had wanted.

"I can tell you what is in your mind," he said.

The words hung in the air of the room for a long time. At last Knupf nodded. "The Devil grants to many his power of seeing the minds of men," he said quietly.

"This is not Devil's work—as I shall prove," Jonas said. He shifted his feet. "But let me establish one point at a time, in the most scholastic manner; if you will permit."

"I permit," Knupf said. There was interest in his mind, overlaid with skepticism, of course, but interest all the same. That, Jonas thought, was a better sign than he had dared to hope for.

"Very well," he said. "Think of a word. Think of any single word. I shall tell it to you."

"As any wizard might do, who had the help of his lord the Devil," Knupf muttered. "Do you expect this to prove—"

"One thing at a time," Jonas said.

Knupf nodded. A second passed.

Jonas licked his lips. The possibilities paraded before him; on one hand, success. On the other there was the torture and death of the Inquisition. Jonas took a deep breath; there was no way to back out now. Heroism looked a little empty, though.

He closed his eyes. "Cabbages," he said.

Knupf neither applauded, nor looked surprised. "As I have said," he murmured, "that which the Devil can grant—" He paused and looked down at his hands. "Am I to take this as a confession?" he said. "Do you wish to hurry your own death?"

"I am no wizard," Jonas said.

"A stranger," Knupf said, "who enters a small city, is seen at mysterious undertakings, plucks words out of the center of a man's mind . . . why, the picture is a classic one. Del Rio himself, Holzinger or any of the others could not describe a better."

"Yet all this was done to draw your attention, to fix it on what I have to tell you," Jonas said, shifting his feet again. "I am no wizard, but a man who may do certain things. And here is my proof: you may do the same yourself."

The silence was a long one, and at the end of it Knupf rose. He walked to the door of the room and opened it, and the bald-headed guard came in. "He has tried to tempt me to pact with Satan," the Inquisitor said.

"But—"

"Take him away."

Some day, Jonas thought, back in his cell, there would be a method of controlling minds that did not require the willing co-operation of the two parties. Some day the man who reads minds would be more than a passive onlooker.

But the talent was new; it needed practice, it needed training.

The cell grew dark as night came, and the dampness seemed to increase. Jonas heard squeaking and thought of the rats, but he couldn't even summon up enough energy to try for them. He sat crosslegged in a corner of the cell and closed his eyes.

He sighed once, deeply. This was what a hero came to, he told himself. This was the end of heroics and playing a lone hand. Why, if he had it to do over again, he would—

"You would do exactly the same thing," Claerten's voice said.

Jonas grinned suddenly, and sat straighter. "I should have known you'd be getting into contact sooner or later," he thought.

"I try to keep track of all our men," Claerten thought. "In a case like yours, I try harder."

"My foolishness," Jonas thought, "sometimes works to my benefit."

Claerten's thought was wry. "If you hadn't got impatient and tried to hurry things," his voice said in Jonas' mind, "you wouldn't be back in your cell now. There is a time and a place for your disclosure—"

"Another day in here would have driven me out of my wits," Jonas thought.

"Better out of your wits than dead," Claerten thought.

Jonas sighed.

"However," Claerten went on, "there is still a way out for you. I have read the situation in your mind, and your next move will have to be rather more spectacular than usual."

"So long as it works," Jonas said, "I will be satisfied."

"It will work," Claerten said. "At least—I think it will."

Another day dragged by. Jonas put in his time alternately going over the new plan and feeling more frightened than he had ever believed possible. Claerten reached him once, but the contact was weak and fleeting; the director hadn't enough strength to reach him again, at least not for a day or so. Jonas was exactly where he'd wanted to be: on his own.

He hated the idea.

Time passed, somehow. When morning dawned, Jonas awoke to find the door of his cell being unlocked. The bald man and the black-haired man were both there. He looked up at them with distaste.

Then he saw what was in their minds, and the distaste changed to fear.

"You have confessed," the bald one said. "It is necessary that you ratify your confession. Come with us."

Jonas knew what that meant: ratification of a free confession took place under torture. He wiped his face with one hand, but he hardly thought of escaping.

He had to go through with the plan.

The two guards came into the cell and gripped his arms. Jonas allowed himself to be carried out into the corridor, and down it to a great wooden door. The guards opened it, and dragged him through.

The torture chamber was brightly lit, with torches in brackets along the walls that gave off, by a small fraction, more light than smoke. In one corner the rack itself stood, and there were other tools of the trade scattered around the room.

Jonas found that he was sweating.

The guards brought him to the center of the room. Knupf was standing near him, a perfectly blank expression on his face. His voice was the same rough rasp, but it seemed almost mechanical.

"You have confessed to me," he said, "your heresy. Now, you will be made to ratify your confession. That done, your penalty will be exacted."

And the penalty, of course, would be death—death at the stake.

He forced himself to remain calm. Now was the time for his play. He took a deep breath and felt the strength in him gather to a single point and flow outward. The two men suddenly seemed to stagger; there was a second of confusion and they had let him go. He stood alone in the room. He turned and walked to the door, but he did not open it. Instead, he leaned against it.

He forced his voice into the patterns of calmness and ease. "Your men cannot touch me," he said.

"Wizard—"

"No," Jonas said. The confusion he was broadcasting kept the men from doing anything that required even a simple plan, but he couldn't keep it up for long. "A man like yourself, a man with a particular talent, given by God."

"The name of God—"

"I can say that name," Jonas told the Inquisitor. "No wizard may say it."

"It is a trick," Knupf said.

Jonas shook his head. "Not at all. I will ask you to do nothing against the Faith; I will merely ask you to test for yourself what I say."

"You are a heretic," Knupf said stubbornly. "I can not—"

"You can pray," Jonas said.

Knupf blinked. "Pray?" he said.

"Meditate on a prayer," Jonas said. "Keep your mind open, keep yourself ready for the gift of God. It will descend on you."

Knupf shook his head. "It is a trick—" he began.

"A trick?" Jonas said. "With the prayers of God and His Church?"

And that was the unanswerable question. For no wizard could use the name of God, no wizard could pray. So the Inquisition said; so Knupf said; so Knupf had to say, and so he had to believe.

Slowly, his mind opened and became receptive. The prayer hung in the air of the smoky room. Jonas slipped in—

"Now," he said quietly.

His control slipped. The two guards came toward him, overpowered and held him in a brief second—

"Wait," the Inquisitor said heavily. "Wait. Release him."

"And so," Claerten thought, "the job was accomplished."

"Naturally," Jonas thought.

Claerten's thought had an overtone of weariness. "There is no need to be smug," he told Jonas. "After all, you did not do the job yourself."

"Unimportant," Jonas thought. "The man is convinced; he can be trained further and join the Brotherhood."

"It will take time," Claerten said. "A few years, perhaps. But in the meantime there will be no trials in Speyer."

"No trials?" Jonas thought. "But . . . oh. I see."

"Of course," Claerten thought. "Any man who considers himself a wizard will have his mind seen by the Inquisitor. And since there are no wizards—at least, none we have discovered—"

"The trials will cease," Jonas finished.

"And the Brotherhood has gained a new member," Claerten said. "A member with influence and power. It is an important step forward, Jonas."

"Of course," Jonas thought disinterestedly.

"Yet you seem bored by the matter," Claerten thought, puzzled. "I don't see . . . oh. I see the woman in your mind. The daughter. And—"

"Now,stop it," Jonas thought. "Stop it. Cut off. After all," he finished, "there are times when even a hero wants a little privacy."

Postscript:

In 1605-1606 (in Offenburg) there were no executions . . .

—H. C. Lea, "Materials Toward a History of Witchcraft," Vol. III, p. 1148

THE END

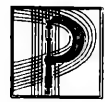
REVOLUTION

By MACK REYNOLDS

Before you wish for something—or send agents to get it for you—make very, very sure you really want it. You might get it, you know . . .

Illustrated by Gardner

Preface . . . *For some forty years critics of the U.S.S.R. have been desiring, predicting, not to mention praying for, its collapse. For twenty of these years the author of this story has vaguely wondered what would replace the collapsed Soviet system. A return to Czarism? Oh, come now! Capitalism as we know it today in the advanced Western countries? It would seem difficult after almost half a century of State ownership and control of the means of production, distribution, communications, education, science. Then what? The question became increasingly interesting following recent visits not only to Moscow and Leningrad but also to various other capital cities of the Soviet complex. A controversial subject? Indeed it is. You can't get much more controversial than this in the world today. But this is science fiction, and here we go.*



AUL KOSLOV nodded briefly once or twice as he made his way through the forest of desks. Behind him he caught snatches of tittering voices in whisper.

". . . That's him . . . The Chief's hatchetman . . . Know what they call him in Central America, a *pistola*, that means . . . About Iraq . . . And that time in Egypt . . . Did you notice his eyes . . . How would you like to date *him* . . . That's him. I was at a cocktail party once when he was there. Shivery . . . cold-blooded—"

Paul Koslov grinned inwardly. He hadn't asked for the reputation but it isn't everyone who is a legend be-

fore thirty-five. What was it *Newsweek* had called him? "The T. E. Lawrence of the Cold War." The trouble was it wasn't something you could turn off. It had its shortcomings when you found time for some personal life.

He reached the Chief's office, rapped with a knuckle and pushed his way through.

The Chief and a male secretary, who was taking dictation, looked up. The secretary frowned, evidently taken aback by the cavalier entrance, but the Chief said, "Hello, Paul, come on in. Didn't expect you quite so soon." And to the secretary, "Dickens, that's all."

When Dickens was gone the Chief scowled at his trouble-shooter. "Paul, you're bad for discipline around here. Can't you even knock before you enter? How is Nicaragua?"

Paul Koslov slumped into a leather easy-chair and scowled. "I did knock. Most of it's in my report. Nicaragua is . . . tranquil. It'll stay tranquil for a while, too. There isn't so much as a parlor pink—"

"And Lopez—?"

Paul said slowly, "Last time I saw Raul was in a swamp near Lake Managua. The very last time."

The Chief said hurriedly, "Don't give me the details. I leave details up to you."

"I know," Paul said flatly.

His superior drew a pound can of Sir Walter Raleigh across the desk, selected a briar from a pipe rack and while he was packing in tobacco said, "Paul, do you know what day it is—and what year?"

"It's Tuesday. And 1965."

The bureau chief looked at his disk calendar. "Um-m-m. Today the Seven Year Plan is completed."

Paul snorted.

The Chief said mildly, "Successfully For all practical purposes, the U.S.S.R. has surpassed us in gross national product."

"That's not the way I understand it."

"Then you make the mistake of believing our propaganda. That's always a mistake, believing your own propaganda. Worse than believing the other man's."

"Our steel capacity is a third again as much as theirs."

"Yes, and currently, what with our readjustment—remember when they used to call them *recessions,* or even earlier, *depressions*—our steel industry is operating at less than sixty per cent of capacity. The Soviets always operate at one hundred per cent of capacity. They don't have to worry about whether or not they can sell it. If they produce more steel than they immediately need, they use it to build another steel mill."

The Chief shook his head. "As long ago as 1958 they began passing us, product by product. Grain, butter, and timber production, jet aircraft, space flight, and coal—"

Paul leaned forward impatiently. "We put out more than three times as many cars, refrigerators, kitchen stoves, washing machines."

His superior said, "That's the point. While we were putting the product of our steel mills into automobiles and automatic kitchen equipment, they did without these things and put their steel into more steel mills, more railroads, more factories. We leaned back and took it easy, sneered at their progress, talked a lot about our freedom and liberty to our allies and the neutrals and enjoyed our refrigerators and washing machines until they finally passed us."

"You sound like a Tass broadcast from Moscow."

"Um-m-m, I've been trying to," the Chief said. "However, that's still roughly the situation. The fact that you and I personally, and a couple of hundred million Americans, prefer our cars and such to more steel mills, and prefer our personal freedoms and liberties is beside the point. We should have done less laughing seven years ago and more thinking about today. As things stand, give them a few more years at this pace and every neutral nation in the world is going to fall into their laps."

"That's putting it strong, isn't it?"

"Strong?" the Chief growled disgustedly. "That's putting it mildly. Even some of our allies are beginning to waver. Eight years ago, India and China both set out to industrialize themselves. Today, China is the third industrial power of the world. Where's India, about twentieth? Ten years from now China will probably be first. I don't even allow myself to think where she'll be twenty-five years from now."

"The Indians were a bunch of idealistic screwballs."

"That's one of the favorite alibis, isn't it? Actually we, the West, let them down. They couldn't get underway. The Soviets backed China with everything they could toss in."

Paul crossed his legs and leaned back. "It seems to me I've run into this discussion a few hundred times at cocktail parties."

The Chief pulled out a drawer

and brought forth a king-size box of kitchen matches. He struck one with a thumbnail and peered through tobacco smoke at Paul Koslov as he lit up.

"The point is that the system the Russkies used when they started their first five-year plan back in 1928, and the system used in China, works. If we, with our traditions of freedom and liberty, like it or not, it works. Every citizen of the country is thrown into the grinding mill to increase production. Everybody," the Chief grinned sourly, "that is, except the party elite, who are running the whole thing. Everybody sacrifices for the sake of the progress of the whole country."

"I know," Paul said. "Give me enough time and I'll find out what this lecture is all about."

The Chief grunted at him. "The Commies are still in power. If they remain in power and continue to develop the way they're going, we'll be through, completely through, in another few years. We'll be so far behind we'll be the world's laughingstock—and everybody else will be on the Soviet bandwagon."

He seemed to switch subjects. "Ever hear of Somerset Maugham?"

"Sure. I've read several of his novels."

"I was thinking of Maugham the British Agent, rather than Maugham the novelist, but it's the same man."

"British agent?"

"Um-m-m. He was sent to Petrograd in 1917 to prevent the Bolshevik revolution. The Germans had sent Lenin and Zinoviev up from Switzerland, where they'd been in exile, by a sealed train in hopes of starting a revolution in Czarist Russia. The point I'm leading to is that in one of his books, 'The Summing Up,' I believe, Maugham mentions in passing that had he got to Petrograd possibly six weeks earlier he thinks he could have done his job successfully."

Paul looked at him blankly. "What could he have done?"

The Chief shrugged. "It was all out war. The British wanted to keep Russia in the allied ranks so as to divert as many German troops as possible from the Western front. The Germans wanted to eliminate the Russians. Maugham had carte blanche. Anything would have gone. Elements of the British fleet to fight the Bolsheviks, unlimited amounts of money for anything he saw fit from bribery to hiring assassins. What would have happened, for instance, if he could have had Lenin and Trotsky killed?"

Paul said suddenly, "What has all this got to do with me?"

"We're giving you the job this time."

"Maugham's job?" Paul didn't get it.

"No, the other one. I don't know who the German was who engineered sending Lenin up to Petrograd, but that's the equivalent of your job." He seemed to go off on another bent. "Did you read Djilas' 'The New Class' about a decade ago?"

"Most of it, as I recall. One of

Tito's top men who turned against the Commies and did quite a job of exposing the so-called classless society."

"That's right. I've always been surprised that so few people bothered to wonder how Djilas was able to smuggle his book out of one of Tito's strongest prisons and get it to publishers in the West."

"Never thought of it," Paul agreed. "How could he?"

"Because," the Chief said, knocking the ash from his pipe and replacing it in the rack, "there was and is a very strong underground in all the Communist countries. Not only Yugoslavia, but the Soviet Union as well."

Paul stirred impatiently. "Once again, what's all this got to do with me?"

"They're the ones you're going to work with. The anti-Soviet underground. You've got unlimited leeway. Unlimited support to the extent we can get it to you. Unlimited funds for whatever you find you need them for. Your job is to help the underground start a new Russian Revolution."

Paul Koslov, his face still bandaged following plastic surgery, spent a couple of hours in the Rube Goldberg department inspecting the latest gadgets of his trade.

Derek Stevens said, "The Chief sent down a memo to introduce you to this new item. We call it a Tracy."

Paul frowned at the wristwatch, fingered it a moment, held it to his ear. It ticked and the second hand moved. "Tracy?" he said.

Stevens said, "After Dick Tracy. Remember, a few years ago? His wrist two-way radio."

"But this is really a watch," Paul said.

"Sure. Keeps fairly good time, too. However, that 's camouflage. It's also a two-way radio. Tight beam from wherever you are to the Chief."

Paul pursed his lips. "The transistor boys are really doing it up brown." He handed the watch back to Derek Stevens. "Show me how it works, Derek."

They spent fifteen minutes on the communications device, then Derek Stevens said, "Here's another item the Chief thought you might want to see."

It was a compact, short-muzzled hand gun. Paul handled it with the ease of long practice. "The grip's clumsy. What's its advantage? I don't particularly like an automatic."

Derek Stevens motioned with his head. "Come into the firing range, Koslov, and we'll give you a demonstration."

Paul shot him a glance from the side of his eyes, then nodded. "Lead on."

In the range, Stevens had a man-size silhouette put up. He stood to one side and said, "O.K., let her go."

Paul stood easily, left hand in pants pocket, brought the gun up and tightened on the trigger. He frowned and pressed again.

He scowled at Derek Stevens. "It's not loaded."

Stevens grunted amusement. "Look at the target. First time you got it right over the heart."

"I'll be . . . ," Paul began. He looked down at the weapon in surprise. "Noiseless and recoilless. What caliber is it, Derek, and what's the muzzle velocity?"

"We call it the .38 Noiseless," Stevens said. "It has the punch of that .44 Magnum you're presently carrying."

With a fluid motion Paul Koslov produced the .44 Magnum from the holster under his left shoulder and tossed it to one side. "That's the last time I tote that cannon," he said. He balanced the new gun in his hand in admiration. "Have the front sight taken off for me, Derek, and the fore part of the trigger guard. I need a quick draw gun.' He added absently, "How did you know I carried a .44?"

Stevens said, "You're rather famous Koslov. The Colonel Lawrence of the Cold War. The journalists are kept from getting very much about you, but what they do learn they spread around."

Paul Koslov said flatly, "Why don't you like me, Stevens? In this game I don't appreciate people on our team who don't like me. It's dangerous."

Derek Stevens flushed. "I didn't say I didn't like you."

"You didn't have to."

"It's nothing personal," Stevens said.

Paul Koslov looked at him.

Stevens said, "I don't approve of Americans committing political assassinations."

Paul Koslov grinned wolfishly and without humor. "You'll have a hard time proving that even our cloak and dagger department has ever authorized assassination, Stevens. By the way, I'm not an American."

Derek Stevens was not the type of man whose jaw dropped, but he blinked. "Then what are you?"

"A Russian," Paul snapped. "And look, Stevens, we're busy now, but when you've got some time to do a little thinking, consider the ethics of warfare."

Stevens was flushed again at the tone. "Ethics of warfare?"

"There aren't any," Paul Koslov snapped. "There hasn't been chivalry in war for a long time, and there probably never will be again. Neither side can afford it. And I'm talking about cold war as well as hot." He scowled at the other. "Or did you labor under the illusion that only the Commies had tough operators on their side?"

Paul Koslov crossed the Atlantic in a supersonic TU-180 operated by Europa Airways. That in itself galled him. It was bad enough that the Commies had stolen a march on the West with the first jet liner to go into mass production, the TU-104 back in 1957. By the time the United States brought out its first really practical trans-Atlantic jets in 1959 the Russians had come up with the TU-114 which its designer, old Andrei Tupolev named the largest,

most efficient and economical aircraft flying.

In civil aircraft they had got ahead and stayed ahead. Subsidized beyond anything the West could or at least would manage, the air lines of the world couldn't afford to operate the slower, smaller and more expensive Western models. One by one, first the neutrals such as India, and then even members of the Western block began equipping their air lines with Russian craft.

Paul grunted his disgust at the memory of the strong measures that had to be taken by the government to prevent even some of the American lines from buying Soviet craft at the unbelievably low prices they offered them.

In London he presented a card on which he had added a numbered code in pencil. Handed it over a desk to the British intelligence major.

"I believe I'm expected," Paul said.

The major looked at him, then down at the card. "Just a moment, Mr. Smith. I'll see if his lordship is available. Won't you take a chair?" He left the room.

Paul Koslov strolled over to the window and looked out on the moving lines of pedestrians below. He had first been in London some thirty years ago. So far as he could remember, there were no noticeable changes with the exception of automobile design. He wondered vaguely how long it took to make a noticeable change in the London street scene.

The major re-entered the room with a new expression of respect on his face. "His lordship will see you immediately, Mr. Smith."

"Thanks," Paul said. He entered the inner office.

Lord Carrol was attired in civilian clothes which somehow failed to disguise a military quality in his appearance. He indicated a chair next to his desk. "We've been instructed to give you every assistance Mr. . . . Smith. Frankly, I can't imagine of just what this could consist."

Paul said, as he adjusted himself in the chair. "I'm going into the Soviet Union on an important assignment. I'll need as large a team at my disposal as we can manage. You have agents in Russia, of course?" He lifted his eyebrows.

His lordship cleared his throat and his voice went even stiffer. "All major military nations have a certain number of espionage operatives in each other's countires. No matter how peaceful the times, this is standard procedure."

"And these are hardly peaceful times," Paul said dryly. "I'll want a complete list of your Soviet based agents and the necessary information on how to contact them."

Lord Carrol stared at him. Finally sputtered, "Man, *why?* You're not even a British national. This is—"

Paul held up a hand. "We're cooperating with the Russian underground. Co-operating isn't quite strong enough a word. We're going to *push* them into activity if we can."

The British intelligence head look-

ed down at the card before him. "Mr. Smith," he read. He looked up. "John Smith, I assume."

Paul said, still dryly, "Is there any other?"

Lord Carrol said, "See here, you're really Paul Koslov, aren't you?"

Paul looked at him, said nothing.

Lord Carrol said impatiently, "What you ask is impossible. Our operatives all have their own assignments, their own work. Why do you need them?"

"This is the biggest job ever, overthrowing the Soviet State. We need as many men as we can get on our team. Possibly I won't have to use them but, if I do, I want them available."

The Britisher rapped, "You keep mentioning *our team* but according to the dossier we carry on you, Mr. Koslov, you are neither British nor even a Yankee. And you ask me to turn over our complete Soviet machinery."

Paul came to his feet and leaned over the desk, there was a paleness immediately beneath his ears and along his jaw line. "Listen," he said tightly, "if I'm not on this team, there just is no team. Just a pretense of one. When there's a real team there has to be a certain spirit. A team spirit. I don't care if you're playing cricket, football or international cold war. If there's one thing that's important to me, that I've based my whole life upon, it's this, understand? *I've* got team spirit. Perhaps no one else in the whole West has it, but *I* do."

Inwardly, Lord Carrol was boiling. He snapped, "You're neither British nor American. In other words, you are a mercenary. How do we know that the Russians won't offer you double or triple what the Yankees pay for your services?"

Paul sat down again and looked at his watch. "My time is limited," he said. "I have to leave for Paris this afternoon and be in Bonn tomorrow. I don't care what opinions you might have in regard to my mercenary motives, Lord Carrol. I've just come from Downing Street. I suggest you make a phone call there. At the request of Washington, your government has given me carte blanche in this matter."

Paul flew into Moscow in an Aeroflot jet, landing at Vnukovo airport on the outskirts of the city. He entered as an American businessman, a camera importer who was also interested in doing a bit of tourist sightseeing. He was traveling deluxe category which entitled him to a Zil complete with chauffeur and an interpreter-guide when he had need of one. He was quartered in the Ukrayna, on Dorogomilovskaya Quai, a twenty-eight floor skyscraper with a thousand rooms.

It was Paul's first visit to Moscow but he wasn't particularly thrown off. He kept up with developments and was aware of the fact that as early as the late 1950s, the Russians had begun to lick the problems of ample food, clothing and finally shelter. Even those products once considered sheer luxuries were now in abund-

ant supply. If material things alone had been all that counted, the Soviet man in the street wasn't doing so badly.

He spent the first several days getting the feel of the city and also making his preliminary business calls. He was interested in a new "automated" camera currently being touted by the Russians as the world's best. Fastest lens, foolproof operation, guaranteed for the life of the owner, and retailing for exactly twenty-five dollars.

He was told, as expected, that the factory and distribution point was in Leningrad and given instructions and letters of introduction.

On the fifth day he took the Red Arrow Express to Leningrad and established himself at the Astoria Hotel, 39 Hertzen Street. It was one of the many of the Intourist hotels going back to before the revolution.

He spent the next day allowing his guide to show him the standard tourist sights. The Winter Palace, where the Bolshevik revolution was won when the mutinied cruiser *Aurora* steamed up the river and shelled it. The Hermitage Museum, rivaled only by the Vatican and Louvre. The Alexandrovskaya Column, the world's tallest monolithic stone monument. The modest personal palace of Peter the Great. The Peter and Paul Cathedral. The king-size Kirov Stadium. The Leningrad subway, as much a museum as a system of transportation.

He saw it all, tourist fashion, and wondered inwardly what the Intourist guide would have thought had he known that this was Mr. John Smith's home town.

The day following, he turned his business problem over to the guide. He wanted to meet, let's see now, oh yes, here it is, Leonid Shvernik, of the Mikoyan Camera works. Could it be arranged?

Of course it could be arranged. The guide went into five minutes of oratory on the desire of the Soviet Union to trade with the West, and thus spread everlasting peace.

An interview was arranged for Mr. Smith with Mr. Shvernik for that afternoon.

Mr. Smith met Mr. Shvernik in the latter's office at two and they went through the usual amenities. Mr. Shvernik spoke excellent English so Mr. Smith was able to dismiss his interpreter-guide for the afternoon. When he was gone and they were alone Mr. Shvernik went into his sales talk.

"I can assure you, sir, that not since the Japanese startled the world with their new cameras shortly after the Second War, has any such revolution in design and quality taken place. The Mikoyan is not only the *best* camera produced anywhere, but since our plant is fully automated, we can sell it for a fraction the cost of German, Japanese or American—"

Paul Koslov came to his feet, walked quietly over to one of the pictures hanging on the wall, lifted it, pointed underneath and raised his eyebrows at the other.

Leonid Shvernik leaned back in his chair, shocked.

Paul remained there until at last the other shook his head.

Paul said, in English, "Are you absolutely sure?"

"Yes," Shvernik said. "There are no microphones in here. I absolutely know. Who are you?"

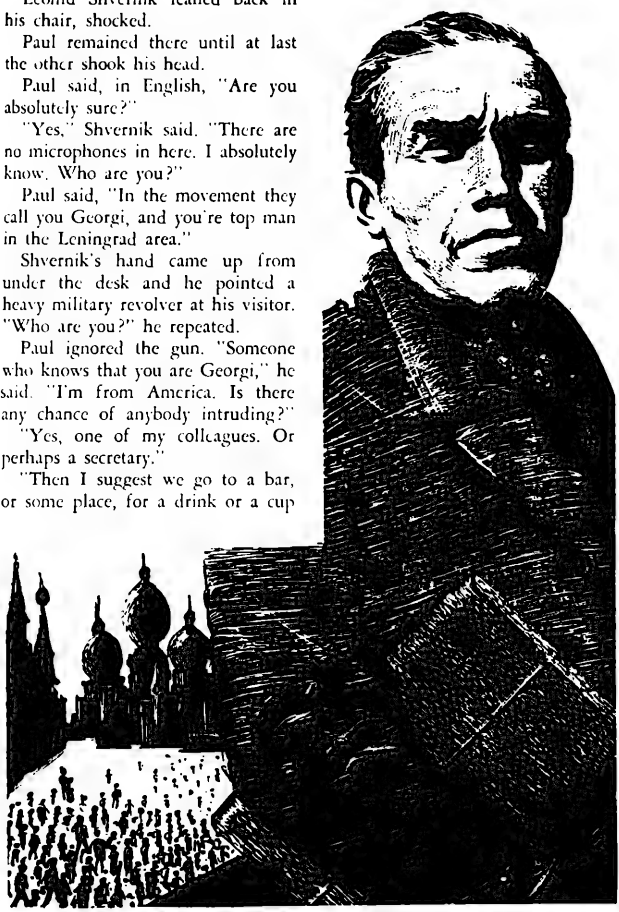
Paul said, "In the movement they call you Georgi, and you're top man in the Leningrad area."

Shvernik's hand came up from under the desk and he pointed a heavy military revolver at his visitor. "Who are you?" he repeated.

Paul ignored the gun. "Someone who knows that you are Georgi," he said. "I'm from America. Is there any chance of anybody intruding?"

"Yes, one of my colleagues. Or perhaps a secretary."

"Then I suggest we go to a bar, or some place, for a drink or a cup



of coffee or whatever the current Russian equivalent might be."

Shvernik looked at him searchingly. "Yes," he said finally. "There's a place down the street." He began to stick the gun in his waistband, changed his mind and put it back into the desk drawer.

As soon as they were on the open street and out of earshot of other pedestrians, Paul said, "Would you rather I spoke Russian? I have the feeling that we'd draw less attention than if we speak English."

Shnervik said tightly, "Do the Intourist people know you speak Russian? If not, stick to English. Now, how do you know my name? I have no contacts with the Americans."

"I got it through my West German contacts."

The Russian's face registered unsuppressed fury. "Do they ignore the simplest of precautions! Do they reveal me to every source that asks?"

Paul said mildly, "Herr Ludwig is currently under my direction. Your secret is as safe as it has ever been."

The underground leader remained silent for a long moment. "You're an American, eh, and Ludwig told you about me? What do you want now?"

"To help," Paul Koslov said.

"How do you mean, to help? How can you help? I don't know what you're talking about."

"Help in any way you want. Money, printing presses, mimeograph machines, radio transmitters, weapons, manpower in limited amounts, know-how training, anything you need to help overthrow the Soviet government."

They had reached the restaurant. Leonid Shvernik became the Russian export official. He ushered his customer to a secluded table. Saw him comfortably into his chair.

"Do you actually know anything about cameras?" he asked.

"Yes," Paul said, "we're thorough. I can buy cameras from you and they'll be marketed in the States."

"Good." The waiter was approaching. Shvernik said, "Have you ever eaten caviar Russian style?"

"I don't believe so," Paul said. "I'm not very hungry."

"Nothing to do with hunger," Shvernik said. From the waiter he ordered raisin bread, sweet butter, caviar and a carafe of vodka.

The waiter went off for it and Shvernik said, "To what extent are you willing to help us? Money, for instance. What kind of money, rubles,, dollars? And how much? A revolutionary movement can always use money."

"Any kind," Paul said flatly, "and any amount."

Shvernik was impressed. He said eagerly, "Any amount within reason, eh?"

Paul looked into his face and said flatly, "Any amount, period. It doesn't have to be particularly reasonable. Our only qualification would be a guarantee it is going into the attempt to overthrow the Soviets—not into private pockets."

The waiter was approaching. Shvernik drew some brochures from

his pocket, spread them before Paul Koslov and began to point out with a fountain pen various features of the Mikoyan camera.

The waiter put the order on the table and stood by for a moment for further orders.

Shvernik said, "First you take a sizable portion of vodka, like this." He poured them two jolts. "And drink it down, ah, bottoms up, you Americans say. Then you spread butter on a small slice of raisin bread, and cover it with a liberal portion of caviar. Good? Then you eat your little sandwich and drink another glass of vodka. Then you start all over again."

"I can see it could be fairly easy to get stoned, eating caviar Russian style," Paul laughed.

They went through the procedure and the waiter wandered off.

Paul said, "I can take several days arranging the camera deal with you. Then I can take a tour of the country, supposedly giving it a tourist look-see, but actually making contact with more of your organization. I can then return in the future, supposedly to make further orders. I can assure you, these cameras are going to sell very well in the States. I'll be coming back, time and again—for business reasons. Meanwhile, do you have any members among the interpreter-guides in the local Intourist offices?"

Shvernik nodded. "Yes. And, yes, that would be a good idea. We'll assign Ana Furtseva to you, if we can arrange it. And possibly she can even have a chauffeur assigned you who'll also be one of our people."

That was the first time Paul Koslov heard the name Ana Furtseva.

In the morning Leonid Shvernik came to the hotel in a Mikoyan Camera Works car loaded with cameras and the various accessories that were available for the basic model. He began gushing the advantages of the Mikoyan before they were well out of the hotel.

The last thing he said, as they trailed out of the hotel's portals was, "We'll drive about town, giving you an opportunity to do some snapshots and then possibly to my country dacha where we can have lunch—"

At the car he said, "May I introduce Ana Furtseva, who's been assigned as your guide-interpreter by Intourist for the balance of your stay? Ana, Mr. John Smith."

Paul shook hands.

She was blond as almost all Russian girls are blond, and with the startling blue eyes. A touch chubby, by Western standards, but less so than the Russian average. She had a disturbing pixie touch around the mouth, out of place in a dedicated revolutionist.

The car took off with Shvernik at the wheel. "You're actually going to have to take pictures as we go along. We'll have them developed later at the plant. I've told them that you are potentially a very big order. Possibly they'll try and assign one of my superiors to your account after a day or two. If so, I suggest that you merely

insist that you feel I am competent and you would rather continue with me."

"Of course," Paul said. "Now then, how quickly can our assistance to you get underway?"

"The question is," Shvernik said, "just how much you can do in the way of helping our movement. For instance, can you get advanced type weapons to us?"

The .38 Noiseless slid easily into Paul's hands. "Obviously, we can't smuggle sizable military equipment across the border. But here, for instance, is a noiseless, recoilless hand gun. We could deliver any reasonable amount within a month."

"Five thousand?" Shvernik asked.

"I think so. You'd have to cover once they got across the border, of course. How well organized are you? If you aren't, possibly we can help there, but not in time to get five thousand guns to you in a month."

Ana was puzzled. "How could you possibly get that number across the Soviet borders?" Her voice had a disturbing Slavic throatiness. It occurred to Paul Koslov that she was one of the most attractive women he had ever met. He was amused. Women had never played a great part in his life. There had never been anyone who had really, basically, appealed. But evidently blood was telling. Here he had to come back to Russia to find such attractiveness.

He said, "The Yugoslavs are comparatively open and smuggling across the Adriatic from Italy, commonplace. We'd bring the things you want in that way. Yugoslavia and Poland are on good terms, currently, with lots of trade. We'd ship them by rail from Yugoslavia to Warsaw. Trade between Poland and U.S.S.R. is on massive scale. Our agents in Warsaw would send on the guns in well concealed shipments. Freight cars aren't searched at the Polish-Russian border. However, your agents would have to pick up the deliveries in Brest or Kobryn, before they got as far as Pinsk."

Ana said, her voice very low, "Visiting in Sweden at the Soviet Embassy in Stockholm is a colonel who is at the head of the Leningrad branch of the KGB department in charge of counter-revolution, as they call it. Can you eliminate him?"

"Is it necessary? Are you sure that if it's done it might not raise such a stink that the KGB might concentrate more attention on you?" Paul didn't like this sort of thing. It seldom accomplished anything.

Ana said, "He knows that both Georgi and I are members of the movement."

Paul Koslov gaped at her. "You mean your position is known to the police?"

Shvernik said, "Thus far he has kept the information to himself. He found out when Ana tried to enlist his services."

Paul's eyes went from one to the other of them in disbelief. "Enlist his services? How do you know he hasn't spilled everything? What do you mean he's kept the information to himself so far?"

Ana said, her voice so low as to be hardly heard, "He's my older brother. I'm his favorite sister. How much longer he will keep our secret I don't know. Under the circumstances, I can think of no answer except that he be eliminated."

It came to Paul Koslov that the team on this side could be just as dedicated as he was to his own particular cause.

He said, "A Colonel Furtsea at the Soviet Embassy in Stockholm. Very well. A Hungarian refugee will probably be best. If he's caught, the reason for the killing won't point in your direction."

"Yes," Ana said, her sensiitve mouth twisting. "In fact, Anastas was in Budapest during the suppression there in 1956. He participated."

The dacha of Leonid Shvernik was in the vicinity of Petrodvorets on the Gulf of Finland, about eighteen miles from Leningrad proper. It would have been called a summer bungalow in the States. On the rustic side. Three bedrooms, a moderately large living-dining room, kitchen, bath, even a car port. Paul Koslov took a mild satisfaction in deciding that an American in Shvernik's equivalent job could have afforded more of a place than this.

Shvernik was saying, "I hope it never gets to the point where you have to go on the run. If it does, this house is a center of our activities. At any time you can find clothing here, weapons, money, food. Even a small boat on the waterfront. It would be possible, though difficult, to reach Finland."

"Right," Paul said. "Let's hope there'll never be occasion."

Inside, they sat around a small table, over the inevitable bottle of vodka and cigarettes, and later coffee.

Shvernik said, "Thus far we've rambled around hurriedly on a dozen subjects but now we must become definite."

Paul nodded.

"You come to us and say you represent the West and that you wish to help overthrow the Soviets. Fine. How do we know you do not actually represent the KGB or possibly the MVD?"

Paul said, "I'll have to prove otherwise by actions." He came to his feet and, ignoring Ana, pulled out his shirt tail, unbuttoned the top two buttons of his pants and unbuckled the money belt beneath.

He said, "We have no idea what items you'll be wanting from us in the way of equipment, but as you said earlier all revolutions need money. So here's the equivalent of a hundred thousand American dollars —in rubles, of course." He added apologetically, "The smallness of the amount is due to bulk. Your Soviet money doesn't come in sufficiently high denominations for a single person to carry really large amounts."

He tossed the money belt to the table, rearranged his clothing and returned to his chair.

Shvernik said, "A beginning, but I am still of the opinion that we should not introduce you to any

other members of the organization until we have more definite proof of your background."

"That's reasonable," Paul agreed. "Now what else?"

Shvernik scowled at him. "You claim you are an American but you speak as good Russian as I do."

"I was raised in America," Paul said, "but I never became a citizen because of some minor technicality while I was a boy. After I reached adulthood and first began working for the government, it was decided that it might be better, due to my type of specialization, that I continue to remain legally not an American."

"But actually you are Russian?"

"I was born here in Leningrad," Paul said evenly.

Ana leaned forward, "Why then, actually, you're a traitor to Russia."

Paul laughed. "Look who's talking. A leader of the underground."

Ana wasn't amused. "But there is a difference in motivation. I fight to improve my country. You first for the United States and the West."

"I can't see much difference. We're both trying to overthrow a vicious bureaucracy." He laughed again. "You hate them as much as I do."

"I don't know." She frowned, trying to find words, dropped English and spoke in Russian. "The Communists made mistakes, horrible mistakes and—especially under Stalin—were vicious beyond belief to achieve what they wanted. But they did achieve it. They built our country into the world's strongest."

"If you're so happy with them, why are you trying to eliminate the Commies? You don't make much sense."

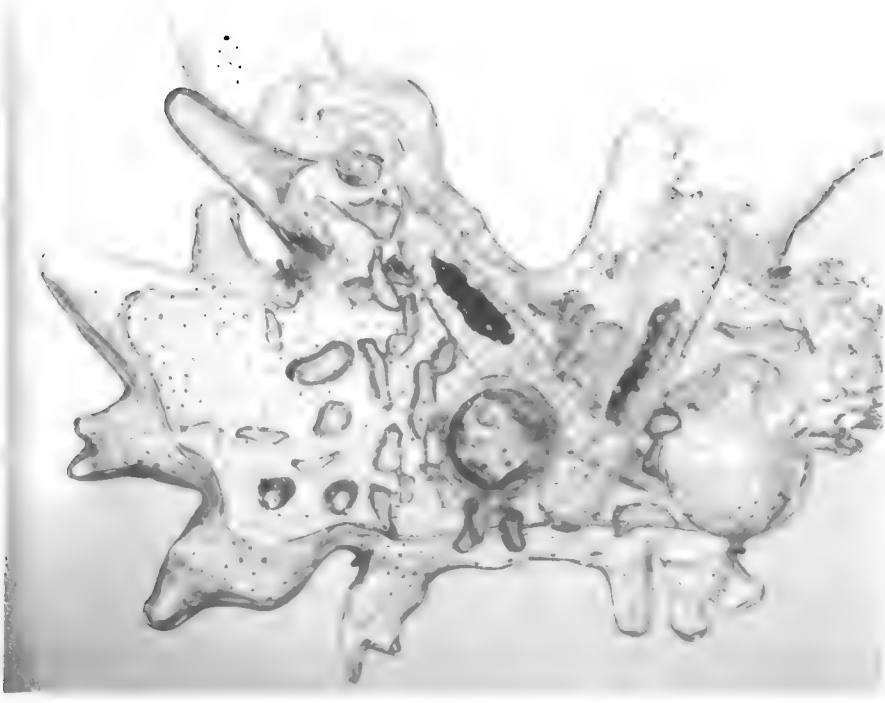
She shook her head, as though it was he who made no sense. "They are through now, no longer needed. A hindrance to progress." She hesitated, then, "When I was a student I remember being so impressed by something written by Nehru that I memorized it. He wrote it while in a British jail in 1935. Listen." She closed her eyes and quoted:

"Economic interests shape the political views of groups and classes. Neither reason nor moral considerations override these interests. Individuals may be converted, they may surrender their special privileges, although this is rare enough, but classes and groups do not do so. The attempt to convert a governing and privileged class into forsaking power and giving up its unjust privileges has therefore always so far failed, and there seems to be no reason whatever to hold that it will succeed in the future."

Paul was frowning at her. "What's your point?"

"My point is that the Communists are in the position Nehru speaks of. They're in power and won't let go. The longer they remain in power after their usefulness is over, the more vicious they must become to maintain themselves. Since this is a police state the only way to get them out is through violence. That's why I find myself in the underground. But I am a patriotic Russian!" She

(*Continued on page* 105)



"It all started like this . . . Not exactly, of course, because the virus-like things must have come first, but the Amoeba (Proteus) here must be like the early one-celled creatures."

All photographs by Courtesy of the American Museum of Natural History

THE MARCH OF THE PHYLA

BY ISAAC ASIMOV

Well... some of them, of course, couldn't march, actually, since legs hadn't been invented yet, and some of them abandoned legs. Yet the limbless, the brainless, the headless and immobile were all in the same unceasing race for survival.

A COUPLE of years ago, I wrote a series of articles for this magazine dealing with the evolution of the Earth and its chemical contents to the point where living cells existed.* There I stopped, but the cells did not. They went on evolving and I, having recovered from my previous exertions, would like to accompany them, in my own speculative and not very authoritative fashion, on their further journeys.

Life, presumably, began with a single nucleoprotein molecule—which is equivalent, today, to a gene within a cell, or to a small virus outside one. It progressed next to an association of nucleoprotein molecules—equivalent today to a chromosome within a cell or a large virus outside one.

The advantage of the molecular association was that the weakness of one molecule of the group might be compensated for by the strength of another. In this way, specialization was possible. Each molecule in the group might be unviable singly because of some essential lack, but each might function far above average in another respect. A skillful combination in which no essential lack ran through all members of the group might result in an organism which together functioned far better than any collection of all-round-good-but-nothing-special individual cells.

A second change was the conversion of the bare group of nucleoprotein molecules to one that was surrounded by food stores and useful chemicals, all held together by a membrane that could control the nature and quantity of the substances entering and leaving. The "virus" had become a "cell." Presumably, the first cells were simple cells, with low levels of organization, equivalent to the bacteria and simpler molds of today.

Now it is usual to consider the change from virus to cell an "advance"—a climb up the tree of life, so to speak. But what do we mean by that? What makes one organism "higher" or "more advanced" than another?

Is it the mere test of survival? If so, the question of virus vs. cell boils down to "no decision." Both viruses and cells exist to this day and neither is likely to be wiped out by anything short of planetary cataclysm. As a

*"Planets Have an Air About Them," ASF, March 1957; "The Unblind Workings of Chance," ASF, April 1957; "The Trapping of the Sun," ASF, May 1957.

matter of fact, viruses are rather harder to kill than cells so that perhaps the move from virus to cell was a retreat rather than an advance. In fact, maybe the development of life in general was a retreat, since a rock or a molecule of water will withstand changes that will kill even a virus.

But words can be defined arbitrarily. We are human beings looking at the universe through human senses and interpreting the messages we receive by means of a human brain swayed by human emotion. It is, therefore, perfectly natural to define "advancement" in human terms.

A human being "advances" when he rises in the social scale by use of wealth, intelligence, force or any other means. The measure of his advancement is his ability to control his environment or his freedom from the pressures of his environment. (What man does not wish to "be his own boss"; and what is that but a way of longing for fewer pressures and greater control.)

Applying this anthropomorphic

The foraminifera were, really an enormous advance. Highly organized and with pretty much a fixed, determinate form.

outlook to life generally, we can say that the more an organism is in control of its immediate environment or the more it is free of its pressures, the more advanced it is.

Let's take an example. A virus has the wherewithal to organize a food supply into duplicates of itself, but it must take the food supply that comes its way. If the necessary molecules bump into it, wonderfully well. Otherwise, it must wait.

The cell has the capacity to store molecules that serve as food. During a lucky period of food density, it can hang on to more than it can use at the moment which the virus cannot do and save it for future use.

Thus the cell has freed itself, to a certain extent, of one of the elements of chance in its environment. It is less immediately dependent than is the virus upon its environment for food.

Again, cells have the capacity for movement at will; viruses do not. This does not mean that *all* cells move. It does mean that some do; the potential is there. However, no virus moves freely and no virus ever did as far as we know; the potential is simply not there.

A virus must depend upon some external force—such as a current of water—to move it against a food supply, or a food supply against it; or to move it away from a danger, or the danger away from it. The moving cell, however, can actively search for food. It can and does develop chemical devices to detect food (or danger) at a distance. Such detection can set up a chain of automatic changes that result in motion toward the food or away from danger.

Again the cell is less the slave of its environment than the virus is. By that measure, the cell is the more advanced.

An organism which is in greater control of its environment than a certain competitor is bound to win out in the competition. When cells and viruses compete for the same food

And if you've got any delusions that a sponge is a "simple" thing, you should have been around waiting those megayears living things spent solving the problems of harmonious co-operation between independent cells!

supply, the cell can go after the food and grab it while the virus must wait for the food to come to it by chance. The cell can take all it can get and store the surplus; the virus must take only what it needs and let the rest go.

As a result, these are the possibilities open to the virus: First, it can simply be beaten in the competition and cease to exist. Second, it can retreat from the competition and find a place for itself where cells do not exist. Third, it can follow the old adage to the effect that if you can't lick them, you must join them, and become a parasite.

Those viruses that exist today have adopted the third path. If there were ever free-living viruses, there are none now.

The viruses of today use cells as their food supply and survive beautifully as a result. The cell utilizes its greater control of the environment to build up a food supply and then the virus steps in and makes use of the food supply.

This is so attractive a way out of a disadvantageous competition that, as an alternative, it has been chosen time and time again in the course of evolution. Some types of organisms, to be sure, ended in extinction. Some were forced into less desirable living niches where there was less competition, but preserved their independence and, in some cases, made startling advances in unexpected ways.

But always there was the lure of parasitism. There are parasites at every level of advancement of life; and, by and large, if mere survival is counted, parasitism has proven brilliantly successful.

But the parasitic control of the environment is a regressive one. It works by picking an extremely specialized environment and tying one's self to it completely. A minor alteration in the environment—such as the death of host organism—kills the parasite. Furthermore, in adjusting to the environment, there is an inevitable regression to lower levels of organization. The environment after all is so ideal that it makes practically no demands on the parasite. So the parasite makes its advances only along the pathways of retreat.

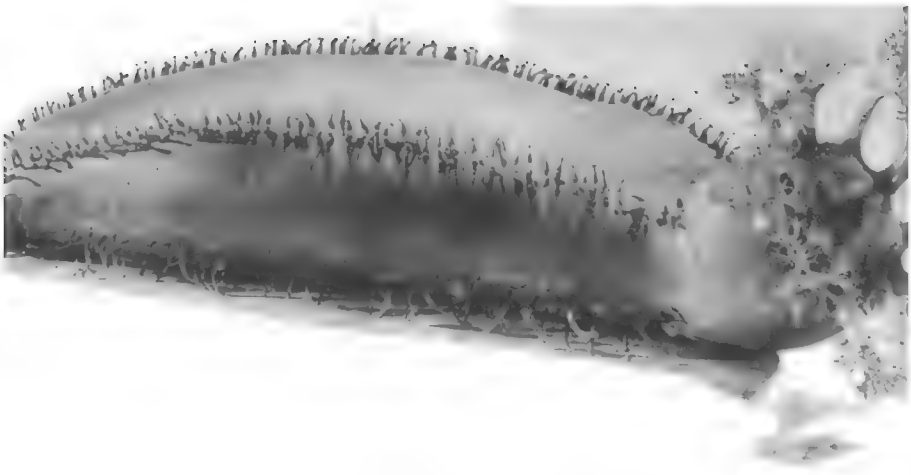
Parasitism is a very good life; a Garden of Eden.

It is to be avoided like death.

As cells grew more elaborate in their race for greater control of the environment and for consequent advantage in their eternal mutual competition for food and safety, a fundamental split in variety took place which persists to this day.

Some cells developed chlorophyll and were freed of the struggle for food in the sense that they thenceforward needed only water, carbon dioxide, certain minerals and sunlight—all of which were virtually ubiquitous and inexhaustible. These cells and their descendants are the members of the plant kingdom.

The remaining cells, which, with their descendants, make up the animal kingdom, get along without chlorophyll. To do so, they must eat ready-made organic matter; either the re-



And a lot more organizing problems had to be worked out before such things as sea cucumbers and . . .

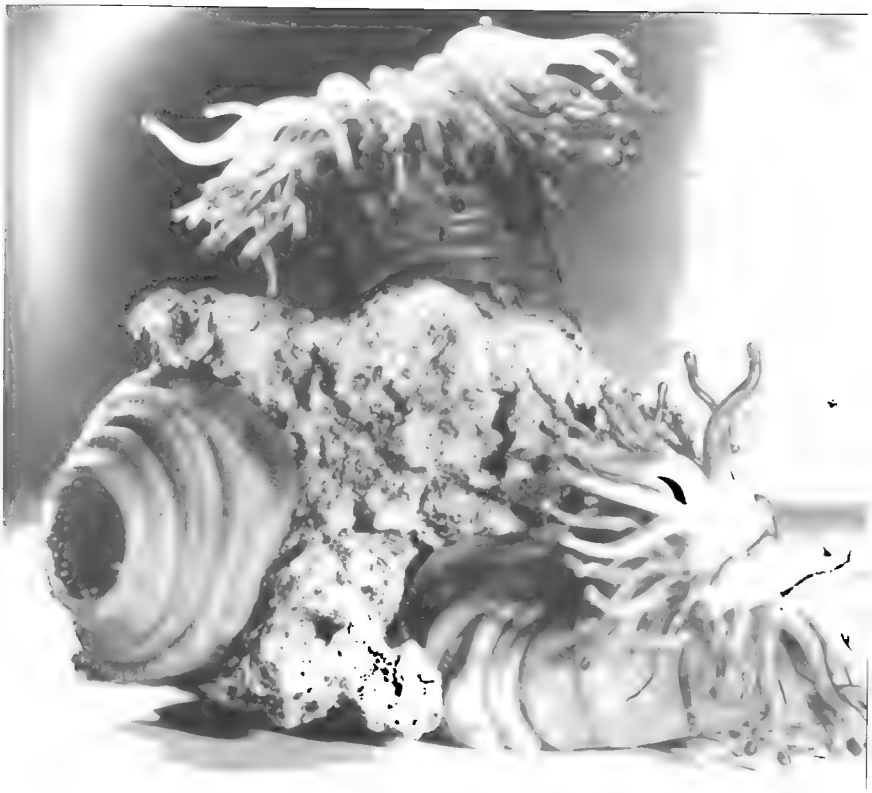
mains of once-living cells, or the intact plant cell, or an intact animal cell that has been living on one or both of the first two items.

In a sense, then, animal cells live on carbon dioxide, water, minerals and sunlight, too—but with at least one middleman involved. Isn't this a form of parasitism on the middleman? Isn't this the kind of death-in-the-garden-of-Eden I have just warned against.

The evidence in favor of viewing animal life, generally as parasitic is this: Plant life, in some of its forms, can continue to exist indefinitely, even though all animal life were destroyed, but the reverse is not true. No animal life would exist for more than a short period after the destruction of plant life.

Furthermore, since animal life lives on solar energy via a middleman, there is the natural wastage associated with middlemen everywhere. It takes roughly ten pounds of plants to support one pound of animal, so that the total mass of living matter on Earth is ninety per cent plant and ten per cent animal.

And yet what about the arguments on the other side. Animal life does not fulfill the main qualification of parasitism; that its food become its environment. A true parasite lives within its food and need not seek it—except for the original seeking that establishes it within its host. Animal life must seek its food constantly and is, therefore, no true parasite. The fact that its particular foodstuff is a plant cell rather than, say, a small pebble is but a difference in detail.

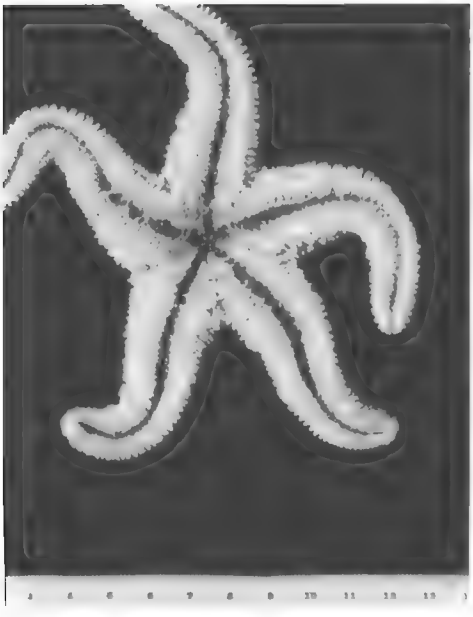


. . . Sea anemones could be deveolped and made to work.

In fact, it is plant life that is surrounded by the air, water, minerals and sunlight that are its food; and, therefore, it is the plant cell that is the true parasite. This is not the usual way of looking at it, I know—in fact, as far as I know, this is original with me—but consider that the plant cell shows some of the marks of the parasite.

It displays a decreased control of its environment as compared with the apparently simpler bacteria. Some bacterial cells can move at will; plant cells cannot. Plant cells are as motionless as viruses. Plant cells store and expend energy slowly and live at a low level of intensity. In fact they don't "live," they "vegetate."

The animal cell, on the other hand, can expend energy at a rate limited only by the amount of plant material it can eat and metabolize per unit time. By the ability to move at will and to live more quickly in general, the animal cell can control its environment far more than the plant cell can. (To put it in its simplest terms: You can bite a carrot but the carrot can't bite you back.)



And a starfish may be stupid-beyond-the-meaning-of-stupid . . . but please remember it's still smarter by far than any electronic brain we've contrived yet!

The conclusion, then, is that the animal cell is more advanced than the plant cell.

In general, continued elaboration of cells almost inevitably involves increases in size. The more complex cells are the larger ones. The larger a cell, the longer the chromosomes it can hold, or the more numerous; the more enzymes it can contain; the more food it can store; the more energy it can generate; the more it can divide itself into specialized subdivisions. In short, a large cell can do more than a small cell and is likely to be, by the definition being used here, more advanced.

But as cells grow larger, trouble arises. The rate at which food enters a cell, and wastes depart, depends on the surface area of the cell. The total food requirements of a cell depend on its volume. But as a cell increases in size, the volume increases as the cube of the diameter, the surface only as the square. If a spherical shape is maintained, a size is quickly reached in where there is no longer enough surface to feed the increased bulk.

An alternative would be to abandon the spherical shape. Cells might be long or flat or irregular. The only trouble is that the spherical shape is the one which requires the least energy to maintain. Any departure involves an input of energy, an input which increases with the size of the cell. Small bacterial cells may be rod-shaped, but for larger cells in isolation, this is a major feat. The amoeba may thrust out blunt pseudopods, the parmecium may be slipper-shaped, but even so maximum size is quickly reached.

Another alternative is for cells to remain small and reasonably spherical, but stick together after cell-division. In this way, a group of cells are formed which have whatever advantage sheer mass brings, while leaving each individual to be within the safety limit of the "square-cube" law.

Thus, cell colonies, both plant and animal, can be and have been formed.

ıe advantage of a cell colony, if it simply a collection of completely dependent cells and nothing more, er so many separate cells, is not eat. However, the existence of a ll colony makes possible specializa-ın at the cellular level.

The most successful cell colonies the animal kingdom, for instance, : the sponges, which can grow to ormous sizes when compared with dividual cells. Sponges are made up several types of specialized cells, ch of which performs a certain job rticularly well.

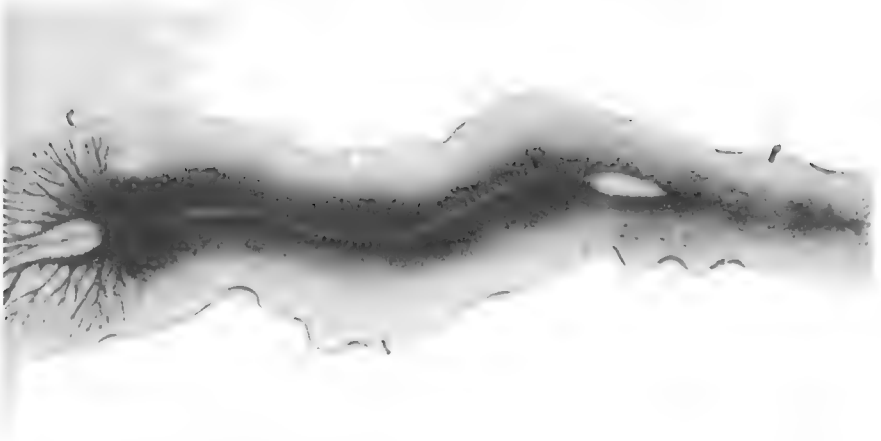
There is a type that secretes a gela-ıous fibrous material that both sup-ırts and protects a colony, so that e colony as a whole is safer and tter protected from the stresses of e environment than any individual ll can be. Other sponge cells have gella that can whip up a current which will carry food particles into the colony and wastes out. Still others contain pores through which the current will pass.

What it amounts to is a division of labor, with a consequent overall increase in efficiency.

Yet in a cell colony, even so complicated a one as the sponges, the individual cell has not given up its birthright. Any one cell of a sponge can, and sometimes does, wander off on its own and start a new colony.

But let's extend this trend to its logical conclusion. To increase the efficiency of a cell colony, more and ever more specialization would be required. Each cell must get better and better at its particular task even if it means that other abilities are allowed to grow vestigial. The deficiencies of one cell will, after all, be made up

The flatworms came up with a magnificent new idea; they discovered which end was front, and which was rear. Great thing, knowing which way you're going!



for by its neighbors. (This is the conversion of gene to chromosome on a higher level.)

Eventually, the individual cell of a colony becomes so specialized that it can no longer exist on its own; only as part of a group.

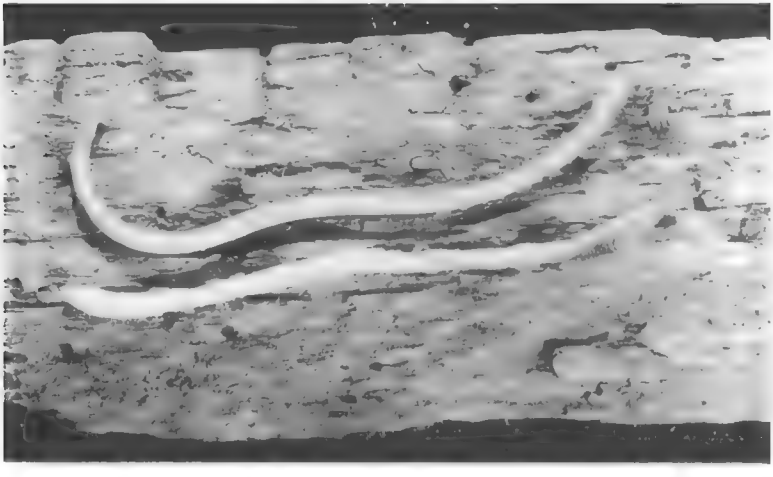
When this point is reached, we are dealing with more than a cell colony. We have a "multicellular organism."*

But now the individual cell is completely at the mercy of the multicellular organism as a whole. The cell cannot live outside the organism and is, therefore, a parasite upon the organism. Is not this a regression?

If you concentrate on the individual cell, it is. But the cell is no longer the organism. It no longer counts as a measure of "advancedness"; it is the entire cell-collection now that has the "consciousness of life."

We can see that in ourselves. It doesn't matter to us that millions of our red blood cells die each minute, or that our skin is constantly renewed only by the continual dying of cells just below the epidermis. A wound damaging or killing millions of cells is of no permanent consequence provided only that it heals. If absolutely necessary, we will sacrifice a leg to save a life. In short, while the con-

* In the less advanced multicellular organisms, relatively small groups of cells from the organism can, if torn loose, survive and serve as the nucleus of a new organism. This is "regeneration." As multicellular organisms advance through ever-increasing specialization, powers of regeneration grow progressively less.



The angle worm and blind worm—and the snail, which isn't shown here—represents the farthest achievements of the one-way and one-sex evolution. They've been at this evolution business as long as we have—but, without the constant critical comments of the female of the species, haven't done so well . . .

Really a very high form of evolution, is the blue crab. And very good eating indeed. There's nothing like hiding inside a shell to make the meat soft and sweet . . . and worth cracking the shell to get at!

sciousness of the whole persists, the parts are but of secondary consequence.

We have no choice but to apply this principle to other multicellular organisms even when we're pretty sure that "consciousness of life" in the human sense does not exist among them. The equivalent, whatever it is, does, so with the advent of the multicellular organism, we must consider the organism only, not the cells composing it.

I should mention here that what I am calling "advance" does not necessarily imply advantages only. The cell is more advanced than the virus but is easier to kill. Although the cell has greater control of its environment within certain limits, it can less well withstand the stress of the environment beyond those limits.

Similarly, a multicellular organism is, in some ways, more susceptible to death than an individual cell is.

An individual cell is potentially immortal. Given sufficient food and safety, it will grow and divide forever. The multicellular organism, however, depends not only on the cells that compose it but on the organization among them. All its cells but for an insignificant few might be in working order. Nevertheless, if the malfunction of the few destroys intercellular organization, death must

ensure for the entire organism and for all the healthy cells that compose it.

Intercellular organization, moreover, is never everlasting. A multicellular organism, though living with ample food and in complete safety, must nevertheless die.

Nevertheless, advantages and disadvantages must be weighed against each other. Looking back along the winding path of evolution, we must conclude that the greater flexibility of the cell within limits more than made up for its greater fragility outside those limits. Similarly, the greater flexibility of the multicellular organism more than made up for the fact that inevitable death came into the world.

In fact, even an apparent disadvantage could be made into a consummate victory. To avoid extinction of the species, provision must be made for the formation of one or more new multicellular organisms before the old one died. This was done and eventually the system was refined to the point where it required the cooperation of two organisms to produce a new one. With the invention of sexual reproduction, there came the eternal shuffling of chromosomes with each generation. Variation among individuals became more common and more drastic and the course of evolution was hastened.

It is interesting to note that the plant kingdom, with its easier life and its parasitism on sun, air and water, made this advance into multicellularity neither as extensively nor as intensively as the animal kingdom. In fact, the plants of the sea never advanced beyond the cell-colony stage. The most elaborate seaweed is only a cell colony.

It is only when plants invaded dry land and water and minerals became less easy to get that specialized or-

The Gila Monster isn't bug-eyed enough to qualify, perhaps—but he isn't handsome. Nevertheless, as a true reptile, he represents the Chordate type that first fully conquered the land, by wrapping up some ocean inside a skin, and carrying it with him.

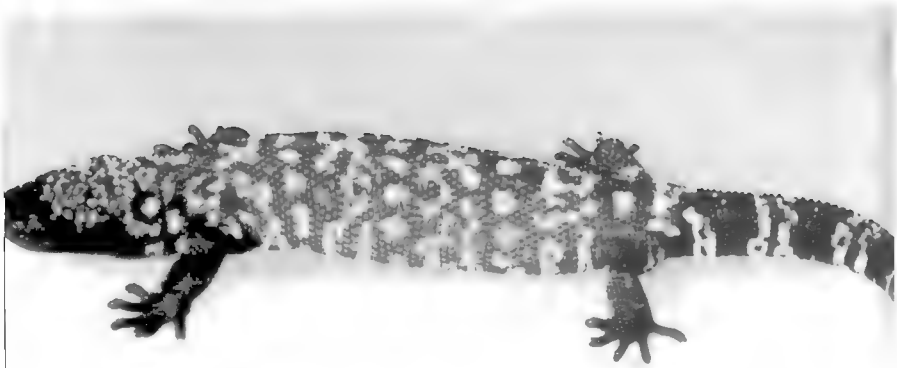
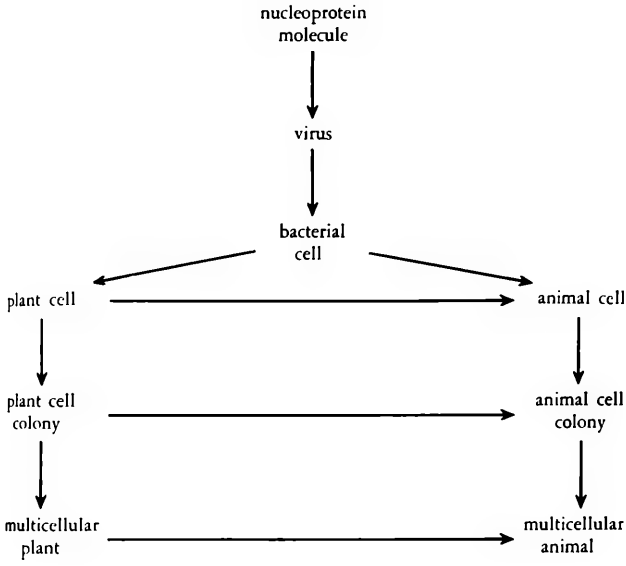


FIGURE 1



gans had to be developed to collect them from the ground, others to collect light from the sun, and others to communicate water from below and food from above to other parts of the organism. Even so, the most elaborate tree is not as elaborate as even a simple animal. No plant, for instance, has a nervous system, or muscles, or a circulating blood system. No plant can move freely in the sense that an animal can.

All the types of organisms I have so far mentioned, still survive in today's world after possibly two billion years of environmental vicissitudes, though not necessarily in their original form. All will undoubtedly continue to survive, barring planetary cataclysm.

However, mere survival is nothing. On the basis of control of environment, the types of organisms can be presented as in Figure 1. The arrows

included are *not* intended to indicate lines of descent, of course. They indicate instead the direction of increasing control of environment. It seems not a hard decision to make; obviously the multicellular animal organism is the most advanced of those listed in the figure. We might say it "rules the Earth."

Multicellular animals, to which I will now confine myself, are divided into a number of broad groups called "phyla—singular, "phylum". Within each phylum there may be wide diversity, but there is retained a certain uniformity of general body plan.

For instance, you may not think there is much similarity between yourself and a fish, but both you and a fish have bones arranged in similar fashion; you both have a heart; you both have blood containing similar chemicals; you both have four limbs arranged in pairs; you both have a pair of eyes and a mouth forming part of the head and so on. Anatomists and zoologists would find hundreds of other gross physical similarities.

The point is that you and the fish belong to the same phylum.

Now compare yourself with an oyster. You may be at a loss to find similarities except for the obvious one that you and the oyster are both multicellular. Different phyla, you see!

Of course, the exact division into phyla is a man-made thing and not all authorities agree on just what creatures go into which phyla. (Nature somehow never did organize itself with the future convenience of human classifiers clearly in mind. Sad, but true.)

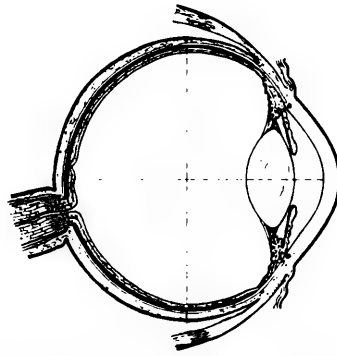
Nevertheless, "Van Nostrand's Scientific Encyclopedia," which I happen to have handy, lists twenty-one phyla of multicellular animals.

Interestingly enough, all twenty-one attempts at varying the basic organization worked, in the sense that creatures belonging to each phylum survive today and will probably go on surviving into the forseeable future. There are no fossil records of any distinct phylum—as far as I know—that is now entirely extinct.

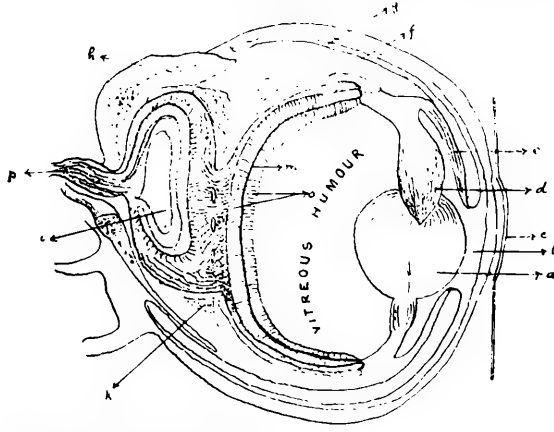
Over half the phyla, however, although surviving, have been distinctly beaten by the competing phyla. These beaten ones now exist in limited variety in out-of-the-way niches of the environment or have drifted largely—sometimes entirely—into the dead-end of parasitism. In continuing the search for "advancement" among organisms, it will only be necessary, therefore, to consider eight different phyla to get what seems a clear picture.

To begin with, the least advanced of the multicellular animal phyla—but one that nevertheless manages to hold its end up, respectably, in the struggle for existence—is Coelenterata. Familiar examples of this phylum are the fresh-water hydra and the jellyfish.

The coelenterate body-plan. in simplest terms, is that of a cup shaped out of a double layer of cells. The layer facing the outside world is the ectoderm; the layer on the inside



Some principles are truly basic, and no matter where you start, the nature of things forces you to the same conclusion. Above is a diagram of the eye of Man. Below, the eye of the octopus. Although totally separate lines of evolution, completely independent inventions, they are essentially identical. The major difference is that Man's eye is designed for use in air, and a smaller lens is adequate, while the higher index of refraction of water forced the octopus to evolve a much thicker lens.



of the cup is the endoderm. Both layers contain specialized cells. The ectoderm deals primarily with the outer world it faces. It contains primitive nerve cells to receive and transmit stimuli, thus co-ordinating the behavior of the component cells that make it up. It also contains stinging cells that serve as weapons of offense, capturing smaller organisms. The endoderm, on the other hand, is a food-centered layer. It contains cells specialized to secrete juice that digest the captured organisms that prepare them for absorption.

A particular advance made by the coelenterates is the possession of the interior of the cup as a private bit of the ocean. In cells and cell colonies, however complicated, food particles must be engulfed into the body of a cell before it can be used.

The coelenterates can, instead, pop food particles into the interior of the cup—which is a primitive digestive sac, or "gut"—and there digest it. The cells of the endoderm need only absorb the dissolved products of digestion, not the particle itself. In this way, many food particles can be handled at once; and individual food particles considerably larger than a cell can be handled. Any improvement in the feeding plan automatically means an important improvement in the control of the environment, so that coelenterate, although the lowest of the multicellular organisms, is much advanced over even the most specialized of the cells or cell colonies.

Another phylum, Platyhelminthes, has added further refinements to the coelenterate body plan. (This phylum, which may also be referred to as the "flatworms," contain well-known parasitic forms, notably the various tapeworms. It also contains free-living forms, the best known of which is a little half-inch creature called "planaria.")

For one thing, the flatworms possess a third layer of cells, called the mesoderm in the space—"coelom"—between the ectoderm and the endoderm. (And that ends it. No fourth layer has ever been developed in any phylum.) The mesoderm is not primarily concerned with relations with the outer world, as is the ectoderm; nor with feeding, as is the endoderm. Instead the mesoderm can be used to form organs that the body requires for internal specialization. (The usefulness of this invention is proved by the fact that no phylum after the flatworms has ever abandoned it.)

For instance, the flatworms use the mesoderm to form contractile fibers that are the first animal muscles. They also form special reproductive organs and the beginnings of excretory organs. All these introduce new specialization and hence new and more efficient ways of responding to the environment. Muscles, as an example, enable the flatworms to move with greater ease and efficiency than do the coelenterates.

In addition, the flatworms display bilateral symmetry. This means that the right and left halves are mirror

images, but the front and rear ends are not. The flatworms have a differentiated "head" and "tail" and it is the head which is generally pointed in the direction of movement.

In single-celled creatures, in cell colonies and in the coelenterates, there is radial symmetry. These creatures must be equally on guard on all sides. In flatworms, since it is the head which is particularly in advance and entering the unknown, it is the head which needs to be particularly sensitive to stimuli. Concentrating the area of response to stimuli means increasing the efficiency of the response and thus allowing for better potential control of the environment.

As an example, the flatworms have developed the primitive nerve cells of the coelenterates into an organized nerve network with a concentration in the head area where it is most needed. The flatworms, in other words, have invented the first primitive brain.

However, both coelenterates and flatworms still depend for nourishment on simple absorption of food from the outside world into the various component cells. This prevents them from ever attaining a great bulk—with the advantage of an increased potential efficiency—since each cell must remain within a certain distance of the outside world, or not enough food and oxygen will reach them.

To be sure, there are giant jellyfish, but their long stingers are very thin and their voluminous "bell" is composed mostly of a very watery gelatinous material—hence "jellyfish"—with the actual living cells very near the surface. There are also giant flatworms—such as seventy-foot tapeworms—but these are flat as tape, as the names imply. They can never be very thick.

To enable a multicellular organism to achieve real bulk, as distinguished from simple length, a new invention was needed. That was supplied by the phylum, Nematoda, popularly called the "roundworms." (Again, many of these are parasitic, but many are free-living.)

The roundworm invention is a fluid within the coelom which can slosh back and forth through the nooks and crannies of the organism. Food and oxygen can now be secreted into the fluid by those cells which absorbed an excess from the gut, and the fluid will carry it to all the cells it bathes for either immediate use or for storage. Similarly, wastes can be dumped into the fluid which can then carry it to the cells of the excretory system.

In short, the roundworms invented blood. The blood was an internal bit of the ocean which could bathe all the cells in an organism however deeply buried. While a cell had an "ocean front" on the blood, it did not need to worry about the real ocean outside. It could rely on nourishment from the blood. That is why the roundworms could develop bulk and be round, whereas flatworms could only be flat.

The roundworms are also responsible for another advance. In both coelenterates and flatworms, the gut is a simple sac with only one opening. The indigestible residue of food taken in had to be ejected by the opening through which it had originally entered. While ejection was taking place, further ingestion could not take place—and vice versa. They operate on the "batch" system.

The roundworms added a second opening to the gut, one in the rear. The roundworms were the first form of life to adopt the basic plan of a tube-within-a-tube. Food particles enter at one end, are digested and absorbed as they travel along the gut, and the indigestible residue is ejected at the other end. Both ingestion and ejection can be continuous and, obviously, this moving-belt, continuous-process assembly-line technique of feeding represents another major improvement in the control of the environment.

Now from the roundworms, one can picture three different and important phyla branching off. Each one keeps everything possessed by the roundworms and adds a few novelties of its own.

In the first place, although the roundworms had the potentiality of bulk, thanks to the invention of blood, another obstacle remained in the way of complete realization of this potentiality. Roundworms are composed exclusively of soft tissue which must, somehow, withstand the disruptive effect of water currents. The larger an organism grows, the more vulnerable it is to this disruption unless it evolves some sort of stiffening.

This was invented by the phylum, Mollusca—or "mollusks", including clams, snails, oysters, et cetera. They developed a hard and rigid outer shell, or "exoskeleton," of calcium carbonate, which served several purposes. It stiffened the body and made more bulk possible. It served as a shield against enemies and it served as an attachment point for muscles so that mollusk muscles could exert a far greater pull than could those of the flatworms or roundworms.

A second phylum tried a stiffening agent after another scheme. This was the phylum, Echinodermata—or "echinoderms," such as starfish, sea urchins and so on—which developed a hardened shield under the skin thus forming an internal skeleton or "endoskeleton." (Echinoderms seem to have retreated from the bilateral symmetry originated by the flatworms and to have returned to the radial symmetry of the coelenterates. This is actually a secondary modification. The larval echinoderms are bilaterally symmetrical, and only take on radial symmetry as adults.)

In both phyla, the skeletons freed the organisms from some of the stresses of the environment to which the roundworms were subject. For this reason, both mollusks and echinoderms can be looked upon as advances over the roundworms.

However, the development of skeletons involved serious shortcomings, too. Mollusks and echinoderms

are bulkier than flatworms and roundworms, to be sure, but the weight of their armor deprives them, by and large, of the free motion so painfully developed by animals. In place of the wriggling worms, you have the motionless starfish and the motionless oyster.

(Incidentally, general statements about phyla, or anything else, are not to be mistaken for universal statements. For instance, the most advanced of the mollusks are the octopi and squids which are anything but motionless. They have regained free motion, however, by abandoning the shell, except for vestigial remnants, and using other types of stiffening at strategic points.)

Again, a shell is a form of static defense. It brings about a kind of "Maginot-psychology." The animal retreats into a fortress and seems rarely capable thenceforward from elaborating refinements in its body plan that would involve an attack upon the environment. And it is always through an attack that the great victories in evolution are won.

Then, too, the shell is a wall that inhibits the creature from knowledge of the world. It is less bombarded by stimuli, thanks to its protective insensitive shell, hence is less apt to develop fast and accurate responses.

And yet the stiffening shell has advantages that more than compensate for all these disadvantages and it remains only to adapt it better; to keep its advantages while minimizing its disadvantages. I'll return to this.

But first, there remains the third development from the roundworms; one that does not involve a skeleton of any sort, and is, perhaps, the most important of the three. This new advance shows up in the phylum, Annelida—or "annelids", of which the common earthworm, is the best-known example. The advance is "segmentation."

An annelid is composed of a series of segments. Each segment may be looked upon as an incomplete organism in itself. Each has its own nerves branching off the main nerve stem, its own blood vessels, its own tubules for carrying off waste, its own muscles and so on. In designing a body plan which is a repetition of similar units, the forces of evolution are once again displaying the assembly-line philosophy, with a consequent improvement in efficiency. The annelid body scheme is better organized, flexible and efficient than is that of any non-segmented creature.

Perhaps because of this, annelids could make further advances. For instance, they improved the blood system by inventing the just-mentioned blood vessels. Blood no longer sloshed back and forth in the coelomic cavity. Now it was confined to vessels through which it might circulate in organized fashion—more efficient. The annelids also invented hemoglobin, a protein which could carry oxygen with far greater efficiency than could a simple watery fluid. (Yes, sir, the earthworm is entitled to considerable respect.)

Yet for all this, the annelids lack

a skeleton. They remain soft and relatively defenseless and are limited in potential bulk. (Even the famous six-foot earthworms of Australia remain long and thin.) Their control of the enviroment is sadly limited.

So the next step is to develop phyla that combine the efficiency of segmentation with the security and bulk-and-strength potentialities of skeletal development. This was done no less than twice.

From the annelids—probably—there developed the phylum of Arthropoda—the "arthropods," including lobsters, spiders, centipedes, and insects. These retained the segmentation of the annelids, but added to it the notion of the exoskeleton, originated by the mollusks.

The arthropod exoskeleton was, however, a great improvement over the mollusk exoskeleton. The former was not an inorganic compound, hard, brittle, inflexible. Instead, it was an organic polymer, called "chitin," which is lighter, tougher and more flexible than the calcium carbonate shell of the mollusks.

Moreover, the arthropod exoskeleton was more than a shapeless barrier against the outside world. It was segmented, fitting the contours of the body closely, and therefore limiting bodily movements far less. In almost every way, chitin offered the advantages of the mollusk shell without the disadvantages. Add to this the efficiency of segmentation, and the arthropod body scheme obviously offers an advance over both the annelids and the mollusks.

A second phylum arose, probably from the echinoderms, at a time after they had invented the endoskeleton but before they had developed the adult regression to radial symmetry. The new phylum is Chordata—the "chordates," to which we belong.

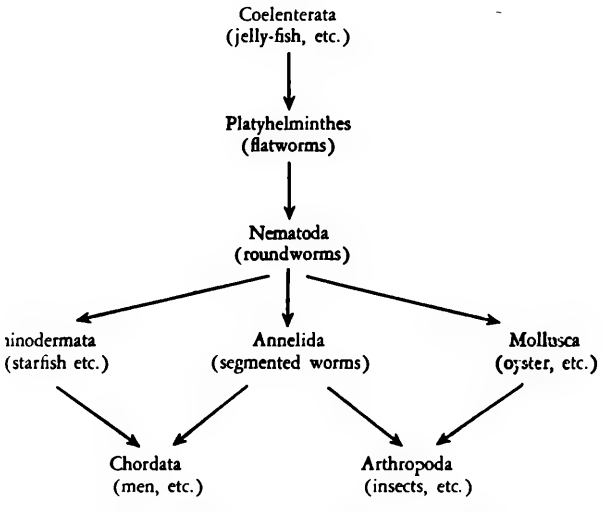
The chordates retained the endoskeleton, which they gradually improved. They converted the primitive shell-like affair of the echinoderms into a system of internal girders which were comparatively light, impressively strong and enormously efficient. They combined this with the introduction of segmentation.

You may be surprised to find out that you, as a chordate, are segmented, but you are just the same. The segmentation is not as outwardly visible among the chordates as among the other two segmented phyla. Among the annelids, for instance, it is clearly visible in the earthworm and among the arthropods it is clearly visible in the centipede. However, though not clearly visible among the chordates, it is there.

Even in the human being who seems, outwardly, all one piece, a minute examination of muscles, blood vessels and nerve fibers, clearly shows the existence of segementation. The excretory and reproductive system in the chordate embryo—even the human one—shows clear segmentation, though this is obscured by secondary changes in the adult.

And you can see it yourself by feeling your backbone. Each vertebra represents one segment. This is most dramatic in the chest where each

FIGURE 2



ment possesses not merely a verte-
. but also a pair of ribs. (Or look
the skeleton of a large snake if
ı ever get the chance, and see if
t example of chordate skeletal con-
ıction does not remind you of a
itipede.)

That ends the march of the phyla,
ich is summarized in Figure 2,
ıere once again the arrows do not
:essarily represent lines of descent
: do represent the direction of in-
ased control of the environment,
ıce increased "advancement."
ere is no question in anyone's
ıd but that the arthropods and the chordates between them are the most advanced and important of the phyla. Again, if you wish, they "rule the world."

Their rule, in fact, may be permanent, for I wonder if any new phyla will ever be formed. Certainly, no new ones have been formed in a long, long time.

Life may have started two billion years ago and probably spent more than half its existence in the unicellular form. With the major discovery (or "breakthrough"—to use the currently fashionable phrase) of multicellularity, there may well have been an explosive exploration of the

various versions of multicellularity. By the time the earliest fossils appear, all twenty-one phyla were probably already established.

Even the chordates and arthropods, the last to be established, were probably in existence in primitive form, at least, 600,000,000 years ago—and no new phyla have been formed since.

Does this mean that life holds no chance for improvement?

Not at all.

For one thing there is much room for further advance and refinement within the arthropod and chordate phyla. For another, if the march of the phyla has ended, it may be that the potentialities of multicellularity have been exhausted.

Life may be readying for the step beyond the phyla, and that is what I want to talk about in a second article in the July issue.

THE END

THE ANALYTICAL LABORATORY

With two issues to report this time, I'll make my piece short; the vote on "Deathworld" was emphatically favorable; you liked it. Many readers said they wanted more of the same. Friends, I agree with that in full. Any of you out there got a yarn like that to spin for us? Thanks to your votes, you know, Harry Harrison collects a total of 4¢ a word on that story. Anybody around who could use $3,000 or so . . . ?

January 1960

PLACE	STORY	AUTHOR	POINTS
1.	Deathworld (Pt. 1)	Harry Harrison	1.50
2.	Stress Pattern	Robert Silverberg	2.63
3.	The Burning Bridge	Poul Anderson	3.08
4.	Attention Saint Patrick	Murray Leinster	3.45
5.	A Rose By Other Name	Christopher Anvil	3.75

Continued on page 165

(*Continued from page* 82)
turned to him. "Why do *you* hate the Soviets so, Mr. Smith?"

The American agent shrugged. "My grandfather was a member of the minor aristocracy. When the Bolsheviks came to power he joined Wrangel's White Army. When the Crimea fell he was in the rear guard. They shot him."

"That was your grandfather?" Shvernik said.

"Right. However, my own father was a student at the Petrograd University at that time. Left wing inclined, in fact. I think he belonged to Kerensky's Social Democrats. At any rate, in spite of his upper class background he made out all right for a time. In fact he became an instructor and our early life wasn't particularly bad." Paul cleared his throat. "Until the purges in the 1930s. It was decided that my father was a Bukharinist Right Deviationist, whatever that was. They came and got him one night in 1938 and my family never saw him again."

Paul disliked the subject. "To cut it short, when the war came along, my mother was killed in the Nazi bombardment of Leningrad. My brother went into the army and became a lieutenant. He was captured by the Germans when they took Kharkov, along with a hundred thousand or so others of the Red Army. When the Soviets, a couple of years later, pushed back into Poland he was recaptured."

Ana said, "You mean liberated from the Germans?"

"Recaptured, is the better word. The Soviets shot him. It seems that officers of the Red Army aren't allowed to surrender."

Ana said painfully, "How did you escape all this?"

"My father must have seen the handwriting on the wall. I was only five years old when he sent me to London to a cousin. A year later we moved to the States. Actually, I have practically no memories of Leningrad, very few of my family. However, I am not very fond of the Soviets."

"No," Ana said softly.

Shvernik said, "And what was your father's name?"

"Theodore Koslov."

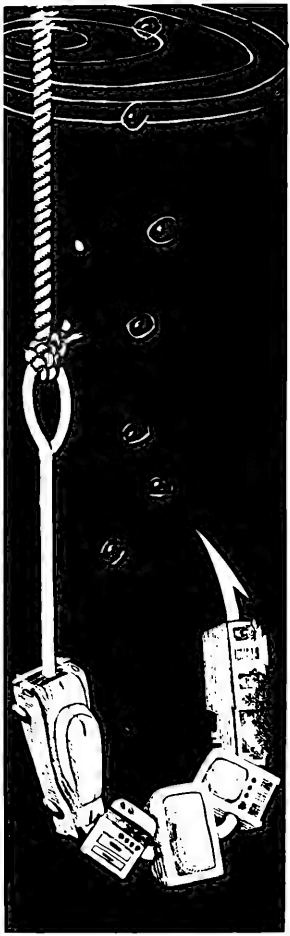
Shvernik said, "I studied French literature under him."

Ana stiffened in her chair, and her eyes went wide. "Koslov," she said. "You must be Paul Koslov."

Paul poured himself another small vodka. "In my field it is a handicap to have a reputation. I didn't know it had extended to the man in the street on this side of the Iron Curtain."

It was by no means the last trip that Paul Koslov was to make to his underground contacts, nor the last visit to the dacha at Petrodvorets.

In fact, the dacha became the meeting center of the Russian underground with their liaison agent from the West. Through it funneled the problems involved in the logistics of the thing. Spotted through the rest of the vast stretches of the country, Paul had his local agents, American,



British, French, West German. Bu this was the center.

The Mikoyan Camera made a grea success in the States. And little won der. Unknown to the Soviets, the ad vertising campaign that sold it cos several times the income from th sales. All they saw were the continuea orders, the repeated visits of Mr John Smith to Leningrad on buyin trips. Leonid Shvernik was ever given a promotion on the strength o his so ably cracking the American market. Ana Furtseva was auto matically assigned to Paul as in terpreter-guide whenever he appear ed in the Soviet Union's second capital.

In fact, when he made his "tourist" jaunts to the Black Sea region, to the Urals, to Turkestan, to Siberia, he was able to have her assigned to the whole trip with him. It gave a tre mendous advantage in his work with the other branches of the under ground.

Questions, unthought of originally when Paul Koslov had been sent into the U.S.S.R., arose as the movement progressed.

On his third visit to the dacha he said to Shvernik and three others of the organization's leaders who had gathered for the conference. "Look my immediate superior wants me to find out who is to be your top man, the chief of state of the new regime, when Number One and the present hierarchy have been overthrown."

Leonid Shvernik looked at him blankly. By this stage, he, as well as Ana, had become more to Paul than

just pawns in the game being played. For some reason, having studied under the older Kozlov seemed to give a personal touch that had grown.

Nikolai Kirichenko, a higher-up in the Moscow branch of the underground, looked strangely at Paul then at Shvernik. "What have you told him about the nature of our movement?" he demanded.

Paul said, "What's the matter? All I wanted to know was who was scheduled to be top man."

Shvernik said, "Actually, I suppose we have had little time to discuss the nature of the new society we plan. We've been busy working on the overthrow of the Communists. However, I thought . . ."

Paul was uneasy now. Leonid was right. Actually in his association with both Ana and Leonid Shvernik they had seldom mentioned what was to follow the collapse of the Soviets. It suddenly occurred to him how overwhelmingly important this was.

Nikolai Kirichenko, who spoke no English, said in Russian, "See here, we are not an organization attempting to seize power for ourselves."

This was a delicate point, Paul sensed. Revolutions are seldom put over in the name of reaction or even conservatism. Whatever the final product, they are invariably presented as being motivated by liberal idealism and progress.

He said, "I am familiar with the dedication of your organization. I have no desire to underestimate your ideals. However, my question is presented with good intentions and re-

archists, I know. You expect a remains unanswered. You aren't answerable government to be in control after the removal of the police state. So I repeat, who is to be your head man?"

"How would we know?" Kirichenko blurted in irritation. "We're working toward a democracy. It's up to the Russian people to elect any officials they may find necessary to govern the country."

Shvernik said, "However, the very idea of a *head man,* as you call him, is opposed to what we have in mind. We aren't looking for a super-leader. We've had enough of leaders. Our experience is that it is too easy for them to become misleaders. If the history of this century has proven anything with its Mussolinis, Hitlers, Stalins, Chiangs, and Maos, it is that the search for a leader to take over the problems of a people is a vain one. The job has to be done by the people themselves."

Paul hadn't wanted to get involved in the internals of their political ideology. It was dangerous ground. For all he knew, there might be wide differences within the ranks of the revolutionary movement. There almost always were. He couldn't take sides. His only interest in all this was the overthrow of the Soviets.

He covered. "Your point is well taken, of course. I understand completely. Oh, and here's one other matter for discussion. These radio transmitters for your underground broadcasts."

It was a subject in which they

were particularly interested. The Russians leaned forward.

"Here's the problem," Kirichenko said. "As you know, the Soviet Union consists of fifteen republics. In addition there are seventeen Autonomous Soviet Socialist Republics that coexist within these basic fifteen republics. There are also ten of what we call Autonomous Regions. Largely, each of these political divisions speak different languages and have their own cultural differences."

Paul said, "Then it will be necessary to have transmitters for each of these areas?"

"Even more. Because some are so large that we will find it necessary to have more than one underground station."

Leonid Shvernik said worriedly, "And here is another thing. The KGB has the latest in equipment for spotting the location of an illegal station. Can you do anything about this?"

Paul said, "We'll put our best electronics men to work. The problem as I understand it, is to devise a method of broadcasting that the secret police can't trace."

They looked relieved. "Yes, that is the problem," Kirichenko said.

He brought up the subject some time later when he was alone with Ana. They were strolling along the left bank of the Neva River, paraleling the Admiralty Building, supposedly on a sightseeing tour.

He said, "I was discussing the future government with Leonid and some of the others the other day. I don't think I got a very clear picture of it." He gave her a general rundown of the conversation.

She twisted her mouth characteristically at him. "What did you expect, a return to Czarism? Let me see, who is pretender to the throne these days? Some Grand Duke in Paris, isn't it?"

He laughed with her. "I'm not up on such questions," Paul admitted. "I think I rather pictured a democratic parlimentary government, somewhere between the United States and England."

"Those are governmental forms based on a capitalist society, Paul."

Her hair gleamed in the brightness of the sun and he had to bring his mind back to the conversation.

"Well, yes. But you're overthrowing the Communists. That's the point, isn't it?"

"Not the way you put it. Let's see if I can explain. To begin with, there have only been three bases of government evolved by man . . . I'm going to have to simplify this."

"It isn't my field, but go on," Paul said. She wore less lipstick than you'd expect on an American girl but it went with her freshness.

"The first type of governmental system was based on the family. Your American Indians were a good example. The family, the clan, the tribe. In some cases, like the Iroquois Confederation, a nation of tribes. You were represented in the government according to the family or clan in which you were born."

"Still with you so far," Paul said. She had a very slight dimple in her left cheek. Dimples went best with blondes, Paul decided.

"The next governmental system was based on property. Chattel slavery, feudalism, capitalism. In ancient Athens, for example, those Athenians who owned the property of the City-State, and the slaves with which to work it, also governed the nation. Under feudalism, the nobility owned the country and governed it. The more land a noble owned, the larger his voice in government. I'm speaking broadly, of course."

"Of course," Paul said. He decided that she had more an American type figure than was usual here. He brought his concentration back to the subject. "However, that doesn't apply under capitalism. We have democracy. Everyone votes, not just the owner of property."

Ana was very serious about it. "You mustn't use the words capitalism and democracy interchangeably. You can have capitalism, which is a social system, without having democracy which is a political system. For instance, when Hitler was in power in Germany the government was a dictatorship but the social system was still capitalism."

Then she grinned at him mischievously. "Even in the United States I think you'll find that the people who own a capitalist country run the country. Those who control great wealth have a large say in the running of the political parties, both locally and nationally. Your smaller property owners have a smaller voice in local politics. But how large a lobby does your itinerant harvest worker in Texas have in Washington?"

Paul said, slightly irritated now, "This is a big subject and I don't agree with you. However, I'm not interested now in the government of the United States. I want to know what you people have in store for Russia, if and when you take over."

She shook her head in despair at him. "That's the point the others were trying to make to you. We have no intention of taking over. We don't want to and probably couldn't even if we did want to. What we're advocating is a new type of government based on a new type of representation."

He noticed the faint touch of freckles about her nose, her shoulders—to the extent her dress revealed them—and on her arms. Her skin was fair as only the northern races produce.

Paul said, "All right. Now we get to this third base of government. The first was the family, the second was property. What else is there?"

"In an ultramodern, industrialized society, there is your method of making your livelihood. In the future you will be represented from where you work. From your industry or profession. The parliament, or congress, of the nation would consist of elected members from each branch of production, distribution, communication, education, medicine—"

"Syndicalism," Paul said, "with some touches of Technocracy."

She shrugged. "Your American Technocracy of the 1930s I am not too familiar with, although I understand power came from top to bottom, rather than from bottom to top, democratically. The early syndicalists developed some of the ideas which later thinkers have elaborated upon, I suppose. So many of these terms have become all but meaningless through sloppy use. What in the world does Socialism mean, for instance? According to some, your Roosevelt was a Socialist. Hitler called himself a National Socialist. Mussolini once edited a Socialist paper. Stalin called himself a Socialist and the British currently have a Socialist government—mind you, with a Queen on the throne."

"The advantage of voting from where you work rather than from where you live doesn't come home to me," Paul said.

"Among other things, a person knows the qualifications of the people with whom he works," Ana said, "whether he is a scientist in a laboratory or a technician in an automated factory. But how many people actually know anything about the political candidates for whom they vote?"

"I suppose we could discuss this all day," Paul said. "But what I was getting to is what happens when your outfit takes over here in Leningrad? Does Leonid become local commissar, or head of police, or . . . well, whatever new title you've dreamed up?"

Ana laughed at him, as though he was impossible. "Mr. Koslov, you have a mind hard to penetrate. I keep telling you, we, the revolutionary underground, have no desire to take over and don't think that we could even if we wished. When the Soviets are overthrown by our organization, the new government will assume power. We disappear as an organization. Our job is done. Leonid? I don't know, perhaps his fellow employees at the Mikoyan Camera works will vote him into some office in the plant, if they think him capable enough."

"Well," Paul sighed, "it's your country. I'll stick to the American system." He couldn't take his eyes from the way her lips tucked in at the sides.

Ana said, "How long have you been in love with me, Paul?"

"What?"

She laughed. "Don't be so blank. It would be rather odd, wouldn't it, if two people were in love, and neither of them realized what had happened?"

"*Two* people in love," he said blankly, unbelievingly.

Leonid Shvernik and Paul Koslov were bent over a map of the U.S.S.R. The former pointed out the approximate location of the radio transmitters. "We're not going to use them until the last moment," he said. "Not until the fat is in the fire. Then they will all begin at once. The KGB and MVD won't have time to knock them out."

Paul said, "Things are moving fast.

faster than I had expected. We're putting it over, Leonid."

Shvernik said, "Only because the situation is ripe. It's the way revolutions work."

"How do you mean?" Paul said absently, studying the map.

"Individuals don't put over revolutions. The times do, the conditions that apply. Did you know that six months before the Bolshevik revolution took place Lenin wrote that he never expected to live to see the Communist take over in Russia? The thing was that the conditions were there. The Bolsheviks, as few as they were, were practically thrown into power."

"However," Paul said dryly, "it was mighty helpful to have such men as Lenin and Trotsky handy."

Shvernik shrugged. "The times make the men. Your own American Revolution is probably better known to you. Look at the men those times produced. Jefferson, Paine, Madison, Hamilton, Franklin, Adams. And once again, if you had told any of these men, a year before the Declaration of Independence, that a complete revolution was the only solution to the problems that confronted them, they would probably have thought you insane."

It was a new line of thought for Paul Koslov. "Then what does cause a revolution?"

"The need for it. It's not just our few tens of thousands of members of the underground who see the need for overthrowing the Soviet bureaucracy. It's millions of average Russians in every walk of life and every strata, from top to bottom. What does the scientist think when some bureaucrat knowing nothing of his speciality comes into the laboratory and directs his work? What does the engineer in an automobile plant think when some silly politician decides that since cars in capitalist countries have four wheels, that Russia should surpass them by producing a car with five? What does your scholar think when he is told what to study, how to interpret it, and then what to write? What does your worker think when he sees the bureaucrat living in luxury while his wage is a comparatively meager one? What do your young people think in their continual striving for a greater degree of freedom than was possessed by their parents? What does your painter think? Your poet? Your philosopher?"

Shvernik shook his head. "When a nation is ready for revolution, it's the *people* who put it over. Often, the so-called leaders are hard put to run fast enough to say out in front."

Paul said, "After it's all over, we'll go back to the States. I know a town up in the Sierras called Grass Valley. Hunting, fishing, mountains, clean air, but still available to cities such as San Francisco where you can go for shopping and for restaurants and entertainment."

She kissed him again.

Paul said, "You know, I've done this sort of work—never on this scale before, of course—ever since I was nineteen. Nineteen, mind you! And

this is the first time I've realized I'm tired of it. Fed up to here. I'm nearly thirty-five Ana and for the first time I want what a man is expected to want out of life. A woman, a home, children. You've never seen America. You'll love it. You'll like Americans too, especially the kind that live in places like Grass Valley."

Ana laughed softly. "But we're Russians, Paul."

"Eh?"

"Our home and our life should be here, In Russia. The New Russia that we'll have shortly."

He scoffed at her. "Live here when there's California? Ana, Ana, you don't know what living is. Why—"

"But, Paul, I'm a Russian. If the United States is a more pleasant place to live than Russia will be, when we have ended the police state, then it is part of my duty to improve Russia."

It suddenly came to him that she meant it. "But I was thinking, all along, that after this was over we'd be married. I'd be able to show you *my* country."

"And, I don't know why, I was thinking we both expected to be making a life for ourselves here."

They were silent for a long time in mutual misery.

Paul said finally, "This is no time to make detailed plans. We love each other, that should be enough. When it's all over, we'll have the chance to look over each other's way of life. You can visit the States with me."

"And I'll take you on a visit to Armenia. I know a little town in the mountains there which is the most beautiful in the world. We'll spen a week there. A month! Perhaps or day we can build a summer dach there." She laughed happily. "Wh practically everyone lives to be a hun dred years old in Armenia."

"Yeah, we'll have to go the sometime," Paul said quietly.

He'd been scheduled to see Leoni that night but at the last moment th other sent Ana to report that an im portant meeting was to take place. . meeting of underground delegate from all over the country. They wer making basic decisions on when t move—but Paul's presence wasn needed.

He had no feeling of being ex cluded from something that concern ed him. Long ago it had been decide that the less details known by th average man in the movement abou Paul's activities, the better it woul be. There is always betrayal an there are always counter-revolutionar agents within the ranks of an organ zation such as this. What was th old Russian proverb? When four me sit down to discuss revolution, thre are police spies and the third a foo

Actually, this had been astonish ingly well handled. He had operate for over a year with no signs that th KGB was aware of his activitie Leonid and his fellows were efficien They had to be. The Commies ha been slaughtering anyone who op posed them for forty years now. T survive as a Russian underground yo had to be good.

No, it wasn't a feeling of exch

sion. Paul Koslov was stretched out on the bed of his king-size Astoria Hotel room, his hands behind his head and staring up at the ceiling. He recapitulated the events of the past months from the time he'd entered the Chief's office in Washington until last night at the dacha with Leonid and Ana.

The whole thing.

And over and over again.

There was a line of worry on his forehead.

He swung his feet to the floor and approached the closet. He selected his most poorly pressed pair of pants, and a coat that mismatched it. He checked the charge in his .38 Noiseless, and replaced the weapon under his left arm. He removed his partial bridge, remembering as he did so how he had lost the teeth in a street fight with some Commie union organizers in Panama, and replaced the porcelain bridge with a typically Russian gleaming steel one. He stuffed a cap into his back pocket, a pair of steel rimmed glasses into an inner pocket, and left the room.

He hurried through the lobby, past the Intourist desk, thankful that it was a slow time of day for tourist activity.

Outside, he walked several blocks

to 25th of October Avenue and made a point of losing himself in the crowd. When he was sure that there could be no one behind him, he entered a *pivnaya,* had a glass of beer, and then disappeared into the toilet. There he took off the coat, wrinkled it a bit more, put it back on and also donned the cap and glasses. He removed his tie and thrust it into a side pocket.

He left, in appearance a more or less average workingman of Leningrad, walked to the bus station on Nashimson Volodarski and waited for the next bus to Petrodvorets. He would have preferred the subway, but the line didn't run that far as yet.

The bus took him to within a mile and a half of the dacha, and he walked from there.

By this time Paul was familiar with the security measures taken by Leonid Shvernik and the others. None at all when the dacha wasn't in use for a conference or to hide someone on the lam from the KGB. But at a time like this, there would be three sentries, carefully spotted.

This was Paul's field now. Since the age of nineteen, he told himself wryly. He wondered if there was anyone in the world who could go through a line of sentries as efficiently as he could.

He approached the dacha at the point where the line of pine trees came nearest to it. On his belly he watched for ten minutes before making the final move to the side of the house. He lay up against it, under a bush.

From an inner pocket he brought the spy device he had acquired from Derek Steven's Rube Goldberg department. It looked and was supposed to look considerably like a doctor's stethoscope. He placed it to his ears, pressed the other end to the wall of the house.

Leonid Shvernik was saying, "Becoming killers isn't a pleasant prospect but it was the Soviet who taught us that the end justifies the means. And so ruthless a dictatorship have they established that there is literally no alternative. The only way to remove them is by violence. Happily, so we believe, the violence need extend to only a small number of the very highest of the hierarchy. Once they are eliminated and our transmitters proclaim the new revolution, there should be little further opposition."

Someone sighed deeply—Paul was able to pick up even that.

"Why discuss it further?" somebody whose voice Paul didn't recognize, asked. "Let's get onto other things. These broadcasts of ours have to be the ultimate in the presentation of our program. The assassination of Number One and his immediate supporters is going to react unfavorably at first. We're going to have to present unanswerable arguments if our movement is to sweep the nation as we plan."

A new voice injected, "We've put the best writers in the Soviet Union to work on the scripts. For all practical purposes they are completed."

"We haven't yet decided what to

say about the H-Bomb, the missiles, all the endless equipment of war that has accumulated under the Soviets, not to speak of the armies, the ships, the aircraft and all the personnel who man them."

Someone else, it sounded like Nikolai Kirichenko, from Moscow, said. "I'm chairman of the committee on that. It's our opinion that we're going to have to cover that matter in our broadcasts to the people and the only answer is that until the West has agreed to nuclear disarmament, we're going to have to keep our own."

Leonid said, and there was shock in his voice, "But that's one of the most basic reasons for the new revolution, to eliminate this mad arms race, this devoting half the resources of the world to armament."

"Yes, but what can we do? How do we know that the Western powers won't attack? And please remember that it is no longer just the United States that has nuclear weapons. If we lay down our defenses, we are capable of being destroyed by England, France, West Germany, even Turkey or Japan! And consider, too, that the economies of some of the Western powers are based on the production of arms to the point that if such production ended, overnight, depressions would sweep their nations. In short, they can't afford a world without tensions."

"It's a problem for the future to solve," someone else said. "But meanwhile I believe the committee is right. Until it is absolutely proven that we need have no fears about the other nations, we must keep our own strength."

Under his hedge, Paul grimaced, but he was getting what he came for, a discussion of policy, without the restrictions his presence would have put on the conversation.

"Let's deal with a more pleasant subject," a feminine voice said. "Our broadcasts should stress to the people that for the first time in the history of Russia we will be truly in the position to lead the world! For fifty years the Communists attempted to convert nations into adopting their system, and largely they were turned down. Those countries that did become Communist either did so at the point of the Red Army's bayonet or under the stress of complete collapse such as in China. But tomorrow, and the New Russia? Freed from the inadequacy and inefficiency of the bureaucrats who have misruled us, we'll develop a productive machine that will be the envy of the world!" Her voice had all but a fanatical ring.

Someone else chuckled, "If the West thought they had competition from us before, wait until they see the New Russia!"

Paul thought he saw someone, a shadow, at the side of the clearing. His lips thinned and the .38 Noiseless was in his hand magically.

False alarm.

He turned back to the converation inside.

Kirichenko's voice was saying, "It is hard for me not to believe that within a period of a year or so half

the countries of the world will follow our example."

"Half!" someone laughed exuberantly. "The world, Comrades! The new system will sweep the world. For the first time in history the world will see what Marx and Engels were *really* driving at!"

Back at the hotel, toward morning, Paul was again stretched out on the bed, hands under his head, his eyes unseeingly staring at the ceiling as he went through his agonizing reappraisal.

There was Ana.

And there was even Leonid Shvernik and some of the others of the underground. As close friends as he had ever made in a life that admittedly hadn't been prone to friendship.

And there was Russia, the country of his birth. Beyond the underground movement, beyond the Soviet regime, beyond the Romanoff Czars. Mother Russia. The land of his parents, his grandparents, the land of his roots.

And, of course, there was the United States and the West. The West which had received him in his hour of stress in his flight from *Mother* Russia. Mother Russia, ha! What kind of a mother had she been to the Koslovs? To his grandfather, his father, his mother and brother? Where would he, Paul, be today had he as a child not been sent fleeing to the West?

And his life work. What of that? Since the age of nineteen, when a normal teenager would have been in school, preparing himself for life. Since nineteen he had been a member of the anti-Soviet team.

A star, too! Paul Koslov, the trouble-shooter, the always reliable, cold, ruthless. Paul Koslov on whom you could always depend to carry the ball.

Anti-Soviet, or anti-Russian?

Why kid himself about his background. It meant nothing. He was an American. He had only the faintest of memories of his family or of the country. Only because people told him so did he know he was a Russian. He was as American as it is possible to get.

What had he told such Westerners, born and bred, as Lord Carrol and Derek Stevens? *If he wasn't a member of the team, there just wasn't a team.*

But then, of course, there was Ana.

Yes, Ana. But what, actually, was there in the future for them? Now that he considered it, could he really picture her sitting in the drug store on Montez Street, Grass Valley, having a banana split?

Ana was Russian. As patriotic a Russian as it was possible to be. As much a dedicated member of the Russian team as it was possible to be. And as a team member, she, like Paul, knew the chances that were involved. You didn't get to be a star by sitting on the bench. She hadn't hesitated, in the clutch, to sacrifice her favorite brother.

Paul Koslov propped the Tracy, the wristwatch-like radio before him, placing its back to a book. He made

it operative, began to repeat, "Paul calling. Paul calling."

A thin, far away voice said finally, "O.K. Paul. I'm receiving."

Paul Koslov took a deep breath and said, "All right, this is it. In just a few days we're all set to kick off. Understand?"

"I understand, Paul."

"Is it possible that anybody else can be receiving this?"

"Absolutely impossible."

"All right, then this is it. The boys here are going to start their revolution going by knocking off not only Number One, but also Two, Three, Four, Six and Seven of the hierarchy. Number Five is one of theirs."

The thin voice said, "You know I don't want details. They're up to you."

Paul grimaced. "This is why I called. You've got to make—or someone's got to make—one hell of an important decision in the next couple of days. It's not up to me. For once I'm not to be brushed off with that 'don't bother me with details,' routine."

"Decision? What decision? You said everything was all ready to go, didn't you?"

"Look," Paul Koslov said, "remember when you gave me this assignment. When you told me about the Germans sending Lenin up to Petrograd in hopes he'd start a revolution and the British sending Somerset Maugham to try and prevent it?"

"Yes, yes, man. What's that got to do with it?" Even over the long distance, the Chief's voice sounded puzzled.

"Supposedly the Germans were successful, and Maugham failed. But looking back at it a generation later, did the Germans win out by helping bring off the Bolshevik revolution? The Soviets destroyed them for all time as a first-rate power at Stalingrad, twenty-five years afterwards."

The voice from Washington was impatient. "What's your point, Paul?"

"My point is this. When you gave me this assignment, you told me I was in the position of the German who engineered bringing Lenin up to Petrograd to start the Bolsheviks rolling. Are you *sure* that the opposite isn't true? Are you sure it isn't Maugham's job I should have? Let me tell you, Chief, these boys I'm working with now are sharp, they've got more on the ball than these Commie bureaucrats running the country have a dozen times over.

"Chief, this is the decision that has to be made in the next couple of days. Just who do we want eliminated? Are you sure you don't want me to tip off the KGB to this whole conspiracy?"

THE END

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OUT . . .

By MARK PHILLIPS

Illustrated by Freas

Part II of III. The FBI had had to contend with disappearing criminals before this one—but not criminals who disappeared that way! Not by teleportation!

. LIKE A LIGHT

SYNOPSIS

When somebody gets a daffy idea and wants to make a Federal case out of it, FBI Director ANDREW J. BURRIS *knows exactly who to hand the case to—FBI Agent* KENNETH J. MALONE.

And this case seemed to have been constructed with Malone in mind. When red 1972 Cadillacs are being stolen all over the Greater New York area, it isn't too unusual. But when an officer opens the door of an empty Cadillac and gets slugged on the head, and when the apparently driverless car drives off by itself with a squad car in hot pursuit, and when the red Cadillac goes over the railing of the highway and cracks up at a hundred and ten miles an hour and is found to be as devoid of human occupancy as the Great Red Spot—then it is time to call in Malone and his co-worker, THOMAS BOYD, *a huge FBI man with a fringe beard that makes him almost a perfect double for Henry VIII.*

In New York, Malone goes for a walk one evening, and sees an unoccupied red Cadillac standing by the curb on a deserted street. He walks over to take a look, something hits him on the head, and he goes out like a light. When he comes to, the Cadillac is gone. The police take him to the hospital, where he learns that, by the looks of the bruised cut on his head, he was struck with a common, or Madison Square Garden variety of blackjack. Dropped beside him was a notebook containing cryptic symbols, some pictures, odd notations, and a list of names: RAMON O.; MARIO G.; SILVO E.; FELIPE A.; ALVAREZ la B.; JUAN de los S.; *and* RAY del E. *And, on another page, he finds his own name and that of* LIEUTENANT PETER LYNCH *of the New York Police Department.*

The next day, while Boyd is do-

ing more routine work, Malone goes to look up Lieutenant Lynch at a precinct station in upper Manhattan.

His first mistake is to identify himself by handing his wallet to Lynch with the wrong identification showing. Lynch hardly knows what to make of a man whose card identifies him as Sir Kenneth Malone, Knight of the Bath, and an officer in the Queen's Own FBI. Malone doesn't even try to explain that the card was sent to him by a pleasantly psychotic little old lady named ROSE THOMPSON, *whose magnificent delusion is that she is QUEEN ELIZABETH I of England.*

After the mixup is straightened out, Malone shows Lynch the notebook. At first, Lynch is at a loss to explain why his name should be in it. Then he sees the list of names.

"They're some kind of kid gang, social club, something like that," Lynch says. "They call themselves the Silent Spooks."

But, he continues, there is one name missing from the list. Aside from RAMON OTRAVEZ, MARIO GRITO, SILVO ENVOZ, FELIPE ALTAPOR, ALVAREZ la BARBA, JUAN de los SANTOS, and RAY del ESTE, *there is an eighth member of the gang—the leader,* MIGUEL FUEYO. *All of the boys are teenagers.*

Simple deduction leads Malone to believe that the notebook must belong to Fueyo, so he gets the address from Lynch and walks over to where Fueyo lives.

But when he gets there, he finds that Lynch, who wants to solve the case of the stolen red Cadillacs himself, has already sent a squad car to arrest the boy, and has taken him back to the precinct station.

Malone goes back to the station in a hurry and finds young Fueyo being questioned by Lynch and two other officers. He insists on questioning the boy alone, and makes the policemen leave the room.

Alone with Mike Fueyo, Malone identifies himself as an FBI man.

"Gee," says Mike, "I've been wanting to say something to you. Something real important."

Then he gives Malone a juicy raspberry and vanishes. He's gone out like a light.

PART 2

VII.

HIRTY seconds passed. During that time, Malone did nothing at all. He just sat there, while a confused montage of pictures tumbled through his head. Sometimes he saw double exposures, and sometimes a couple of pictures overlapped, but it didn't seem to make any difference, because none of the pictures meant anything anyhow.

The reason for that was obvious. He was no longer sane. He had cracked up. At a crucial moment, his brain had failed him, and now people would have to come in and cart him away and put him in a strait-

jacket. It was perfectly obvious to Malone that he was no longer capable of dealing with everyday life. The blow on the head had probably taken final effect, and it had been more serious than the doctor had imagined.

He had always distrusted doctors anyhow.

And now he was suffering from a delayed reaction. He wasn't living in the real world any more. He had gone off to dreamland, where people disappeared when you looked at them. There was no hope for him.

It was a nice theory, and it was even comforting, in a way. There was only one thing wrong with it.

The room around him didn't look dreamlike at all. It was perfectly solid and real, and it looked just the way it had looked before Mike Fueyo had . . . well, Malone amended, before whatever had happened had happened. It was a perfectly complete little room, and it had four chairs in it. Malone was sitting in one of the chairs and all the others were empty.

There was absolutely nothing else in the room.

With some regret, Malone abandoned the theory that he had gone mad. This left him with no ideas at all. Because if he hadn't become insane, then what *had* happened?

After another second or two, some ideas began to filter through the daze. Perhaps he'd just blacked out for a minute and the kid had gone out the door. That was possible, wasn't it?

Sure it was. And maybe he had just not seen the kid go. His eyes had failed for a second or two. That could certainly happen, after a blow on the head. Malone tried to remember where the sight centers of the brain were. Maybe whoever had hit him had disturbed them, and he'd had a sudden blackout.

Come to think of it, that made pretty good sense. If he had blacked out, then Mike would have seen it as he went groggy, and Mike had just walked out the door. It had to be the door, of course—the windows were out of the question, since there weren't any windows. And six-inch-wide air-conditioner ducts do not provide reasonable space for an exit, not if you happen to be a human being.

That, Malone told himself, was settled—and a good thing, too. He had begun to worry about it. But now he knew just what had happened, and he felt relieved. He got up from his chair, walked over to the door and opened it.

Lieutenant Lynch nearly fell into the room. He'd obviously had his ear pressed tightly to the door and hadn't expected it to open. The other two cops stood behind him, just about filling the hallway with their broad shoulders.

"Well, well," Malone said.

Lynch recovered his balance and glared at the FBI agent. He said nothing.

"Where is he?" Malone said.

"Where is he?" Lynch repeated, and blinked. "Where's *who?*"

Malone shook his head impatiently. "Fueyo," he said.

Lynch's expression was the same as that on the faces of the other two cops: complete and utter bafflement. Malone stopped and stared. It was suddenly very obvious that the lovely theory he had worked out for Mike's disappearance wasn't true in the least. If Mike Fueyo had come out the door, then these cops would know about it. But they obviously knew nothing at all about it.

Therefore, he hadn't come out through the door.

Malone took a deep breath.

"What are you talking about?" Lynch said. "Isn't the kid in there with you? What's happened?"

There was only one thing to do and, straight-faced, Malone went ahead and did it. "Of course not," he snapped, trying to sound impatient and official. "I released him."

"You *what?*"

"Released him," Malone said. He stepped out into the hall and closed the door of the interrogation room firmly behind him. "I got all the information I needed, so I let him go."

"Thanks," Lynch said bitterly. "After all, I was the one who—"

"You called him in for questioning, didn't you, lieutenant?" Malone said.

"Yes, I did, and I—"

"Well," Malone said, "I questioned him."

There was a little silence. Then Lynch asked, in a strangled voice: "What did he say?"

"Sorry," Malone said at once. "That's classified information." He pushed his way into the corridor, trying to look as if he had fifteen other jobs to accomplish within the next hour. Being an FBI agent was going to help a little, but he still had to look good in order to really carry it off.

"But—"

"Thanks for your co-operation, lieutenant," Malone said. "You've all been very helpful." He smiled at them in what he hoped was a superior manner. "So long," he said, and started walking.

"Wait!" Lynch said. He flung open the door of the interrogation room. There was no doubt that it was empty. "Wait! Malone!"

Malone turned slowly, trying to look calm and in control of the situation. "Yes?" he said.

Lynch looked at him with puzzled, pleading eyes. "Malone, *how* did you release him? We were right here. He didn't come through the door. There isn't any other exit. So how did you get him out?"

There was only one answer to that, and Malone gave it with a quiet, assured air. "I'm terribly sorry, lieutenant," he said, "but that's classified information, too." He gave the cops a little wave and walked slowly down the corridor. When he reached the stairs he began to speed up, and he was out of the precinct station and into a taxicab before any of the cops could have realized what had happened.

He took a deep breath, feeling as if it were the first he'd had in several days. "Breathe air," he told himself. "It's *good* for you." Not that New York had any real air in it. It was mostly carbon fumes and the like. But it was the nearest thing to air that Malone could find at the moment, and he determined to go right on breathing it until something better and cleaner showed up.

But that wasn't important now. As the cab tooled along down Broadway toward Sixty-ninth Street, Malone closed his eyes and began going over the whole thing in his mind.

Mike Fueyo had vanished.

Of that, Malone told himself, there was no shadow of doubt. No probable, possible shadow of doubt.

No possible doubt—as a matter of fact—whatever.

Dismissing the Grand Inquisitor with a negligent wave of his hand, he concentrated on the main question. It was a good question. Malone could have sat and looked at it admiringly for a long time.

As a matter of fact, that was all he could think of to do, as the cab turned up Seventieth Street and headed east. He certainly didn't have any answers for it.

But it was a lovely question:

Where does that leave Kenneth J. Malone?

And, possibly even more important:

Where was Miguel Fueyo?

It was obvious that he'd vanished on purpose. And it hadn't just been something he'd recently discovered. He had known all along that he could pull the trick; if he hadn't known that, he wouldn't have done what he had done beforehand. No seventeen-year-old boy, no matter what he was, would give the FBI the raspberry unless he were pretty sure he could get away with it.

Malone remembered the raspberry and winced slightly. The cab driver called back: "Anything wrong, buddy?"

"Everything," Malone said. "But don't worry about it."

The cab driver shrugged and turned back to the wheel. Malone went back to Mike Fueyo.

The kid could make himself vanish at will.

Invisibility?

Malone thought about that for a while. The fact that it was impossible didn't decide him against it. Everything was impossible; that much was clear. But he didn't think Mike Fueyo had just become invisible. No. There had been the sense of a presence actually leaving the room. If Mike had become invisible and stayed, Malone was sure he wouldn't have felt the boy leave.

Mike had not just become invisible. (And what do I mean, "just"? Malone asked himself unhappily.) He had gone—elsewhere.

This brought him back full circle to his original question: where was the boy now? But he ignored it for a minute or two as another, even more difficult query presented itself.

Never mind where, Malone told himself. *How?*

Something was bothering him. Malone realized that it had been bothering him for a long time. At last he managed to locate it and hold it up to the light for inspection.

Dr. O'Connor, the psionics expert at Westinghouse, had mentioned something during Malone's last conversation with him. Dr. O'Connor, who'd invented a telepathy detector, had been discussing further reaches in his field.

"After all," he'd said, "if thoughts can bridge any distance whatever, regardless of other barriers, there is no reason why matter could not do likewise."

"How do you know?" Malone had asked him, "it doesn't. Or, anyhow, it hasn't so far."

"There's no way to be sure of that," Dr. O'Connor had said sternly. "After all, we have no reports of it—but that means little. Our search has only begun."

"Oh," Malone said. "Sure."

"Matter, controlled by thought, might bridge distances instantaneously," Dr. O'Connor had said.

And he'd referred to something, some word . . .

Teleportation.

That was it. Malone sat back. All you had to do, he reflected, was to think yourself somewhere else, and —*bing!*—you were there. If Malone had been able to do it, it would not only save him a lot of time and trouble, but also such things as cab fare and train fare and . . . oh, a lot of different things.

But he couldn't. And Dr. O'Connor hadn't found anyone else who could, either. As far as Malone knew, nobody could teleport.

Except Mike Fueyo.

The cab stopped in front of FBI Headquarters. "You some kind of secret agent?" the cabbie said.

"Of course not," Malone said pleasantly. "I'm a foreign spy."

"Oh," the cabbie said. "Sure." He took his money with a somewhat puzzled air, while Malone crossed the sidewalk and went into the building.

Everyone was active. Malone pushed his way through arguing knots of men until he reached the small office which he and Boyd had been assigned. He had already decided not to tell Boyd about the disappearing boy. That would only confuse him —and matters were confused enough as they stood. Malone had no proof; he had only his word and the word of a few baffled policemen, all of whom were probably thoroughly confused by now.

Boyd had a job to do, and Malone had decided to let him go on doing it. That, as a matter of fact, was what he was doing when Malone entered the room.

He was sitting at his desk, talking on the telephone. Malone couldn't see the face on the screen, but Boyd was scowling at it fiercely. "Sure," he said. "So some guy makes a fuss. That's what you're for."

"But he wants to sue the city," a voice said tinnily. "Or somebody."

"Let him sue," Boyd said. "We've got authority. Just get that car."

"Look," the voice said. "I—"

"I don't care how," Boyd snapped. "Get it. Then hand it over to the pickup-squad and say: 'Mr. Malone wants this car—immediately.' They'll know what to do. Got that?"

"Sure, Mr. Boyd," the voice said. "But I don't—"

"Never mind," Boyd said. "Go ahead and get the job done. The United States of America is depending on you." With one last scowl, he hung up and swung around to face Malone. "You gave me a great job," he said. "I really love it, you know that?"

"It's got to be done," Malone said in a noncommittal voice. "How's it going so far?"

Boyd closed his eyes for a second. "Twenty-three red 1972 Cadillacs to date—which isn't bad, I suppose," he said. "And six calls like the one you just heard. All from agents with problems. What am I supposed to do when a guy catches a couple necking in a 1972 red Cadillac?"

"At this time of day?" Malone said.

"New York," Boyd said, and shrugged. "Things are funny here."

Malone nodded. "What did you do about them?" he said.

"Told the agent to take the car and give 'em a pass to a movie," Boyd said.

"Good," Malone said. "Keep that sort of thing in the dark where it belongs." For some reason, this reminded him of Dorothy. He still had to get tickets for a show. But that could wait. "How about the assembly line?" he said.

"Disassembly," Boyd said. "Leibowitz has started it going. He borrowed the use of a big auto repair shop over in Jersey City, and they'll be doing a faster job than we thought." He paused. "But it's been a wonderful day," he said. "One to remember as long as I live. Possibly even until tomorrow. And how have you been doing?"

"Well," Malone said, "I'm not absolutely sure yet."

"That's a nice, helpful answer," Boyd said. "In the best traditions of the FBI."

"I can't help it," Malone said. "It's true."

"Well, what have you been doing?" Boyd said. "Drinking? Living it up while I sit here and talk to people about Cadillacs?"

"Not exactly," Malone said. "I've been . . . well, doing more or less what Burris told me to do. Nosing around. Keeping my eyes open."

The phone chimed. Boyd flipped up the mike and eyed the screen balefully. "Federal Bureau of Investigation," he said crisply. "Who are you?"

A voice on the other end said: "What?" before the image on the screen cleared.

"Oh," a voice said. It was a very calm, quiet voice. "Hello, Boyd."

The image cleared. Boyd was facing the picture of a man in his middle thirties, a brown-haired man with large, gentle brown eyes and an expression that somehow managed to look both sad and confident. "Hello, Dr. Leibowitz," Boyd said.

"Is Mr. Malone in?" Leibowitz said. "I really wanted to talk to him."

"Sure," Boyd said. "Just a second."

He motioned to Malone, who came around and sat at Boyd's desk as Boyd got up. He nodded to Leibowitz, and the electronics engineer nodded back.

"How's everything coming, Dr. Leibowitz?" Malone said.

Leibowitz shrugged meaningfully. "All right," he said. "I called you to tell you about that, by the way. We've managed to cut the per-car time down somewhat."

"That's wonderful," Malone said.

"It's now down to about four hours per car—and that means we may be able to do even better than running one off the line every fifteen minutes. At the moment, fifteen minutes is about standard, though, with sixteen cars in the line."

"Sure," Malone said. "But anything you can do to speed it up—"

"I understand," Leibowitz said. "Of course, I'll do anything that I can for you. I have got a small preliminary report, by the way."

"Yes?"

"The first car has just been turned off the assembly line," Leibowitz said. "And I'm afraid, Mr. Malone, that there's nothing odd about it at all."

"Well," Malone said, "we can't expect to hit the jackpot with our first try."

"Certainly not," Leibowitz said. "But the second should be off soon. And then the rest. I'm keeping my eye on every one, of course."

"Fine," Malone said, and meant it. Leibowitz was the kind of man who inspired instant, and complete trust. Malone was perfectly sure he'd do the job he had started to do. Then an idea struck him. "Has the first car been reassembled yet?" he asked.

"Of course," Leibowitz said. "We took that step into account in our timing. What would you like done with it—and with the other ones, as they come off?"

"Unless you can find something odd about a car, just return it to its owner," Malone said. "Or pass the problem on to the squad men—they'll take care of it." He paused. "If you do find something odd—"

"I'll call you at once, of course," Leibowitz said.

"Good," Malone said. "Incidentally, I did want to ask you something. I don't want you to think I'm doubting your work, or anything like that. Believe me."

"I'm sure you're not," Leibowitz said.

"But," Malone said, "why does it take so long? I'd think it would be fairly easy to spot a robotic or a semirobotic brain capable of controlling a car."

"It might have been, once," Leibowitz said. "But these days the problems are rather special. Oh, I don't mean we can't do it—we can and we will. But with subminiaturization, Mr. Malone, and semipsionic circuits, a pretty good brain can be hidden beneath a coat of paint."

For no reason at all, Malone suddenly thought of Dorothy again. "A coat of paint?" he said in a disturbed tone.

"Certainly," Leibowitz said, and smiled at him. It was a warm smile that had little or nothing to do with the problem they were talking about. But Malone liked it. It made him feel as if Leibowitz liked him, and approved of him. He grinned back.

"But a coat of paint isn't very much," Malone said.

"It doesn't have to be very much," Leibowitz said. "Not these days. I've often told Emily—that's my wife, Mr. Malone—that I could hide a TV

circuit under her lipstick. Not that there would be any use in it—but the techniques are there, Mr. Malone. And if your conjecture is correct, someone is using them."

"Oh," Malone said. "Sure. But you *can* find the circuits, if they're there?"

Leibowitz nodded slowly. "We can, Mr. Malone," he said. "They betray themselves. A microcircuit need not be more than a few microns thick, you see—as far as the conductors and insulators are concerned, at any rate. But the regulators—transistors and such—have to be as big as a pinhead."

"Enormous, huh?" Malone said.

"Well," Leibowitz said, and chuckled, "quite large enough to locate without trouble, at any rate. They're very hard to conceal. And the leads from the brain to the power controls are even easier to find—comparatively speaking, of course."

"Of course," Malone said.

"All the brain does, you see," Leibowitz said, "is control the mechanism that steers the car. But it takes real power to steer—a great deal more than it does to compute the steering."

"I see," Malone, who didn't, said desperately. "In other words, unless something radically new has been developed, you can find the circuits."

"Right," Leibowitz said, grinning. "It would have to be something very new indeed, Mr. Malone. We're up on most of the latest developments here; we've got to be. But I don't want the credit for this."

"No?" Malone said.

"Oh, no," Leibowitz said. "All I do is work out the general application to theory, as far as actual detection is concerned. It's my partner, Mr. Hardin, who takes care of all the engineering details."

Malone said: "Well, so long as one of you—"

"Sal's a real crackerjack," Leibowitz said enthusiastically. "He has an intuitive feel about these things. It's really amazing to watch him go to work."

"It must be," Malone said politely.

"Oh, it really is," Leibowitz said. "And it's because of Sal that I can make the guarantee I do make: that if there are any unusual circuits in those cars, we can find them."

"Thanks," Malone said. "I'm sure you'll do the job. And we need that information. Don't bother to send along a detailed report, though, unless you find something out of the ordinary."

"Of course, Mr. Malone," Leibowitz said. "I wouldn't have bothered you except for the production speed-up here."

"I understand," Malone said. "It's perfectly all right. I'll be hearing from you, then?"

"Certainly, Mr. Malone," Leibowitz said.

Malone cut the circuit at once and started to turn away, but he never got the chance. It started to chime again at once.

"Federal Bureau of Investigation," Malone said as he flipped up the re-

ceiver. He wanted badly to copy Boyd's salutation, but he found that he just didn't have the gall to do it, and said sadly instead: "Malone speaking."

There was no immediate answer from the other party. Instead, the screen slowly cleared, showing Malone the picture of a woman he recognized instantly.

It was Juanita Fueyo—Mike's mother.

Malone stared at her. It seemed to him as if a couple of hours passed while he tried to find his voice. Of course, she'd looked up the FBI number in the phone book, and found him that way. But she was about the last person on Earth from whom he'd expected a call.

"Oh, Mr. Malone," she said, "thank you so much! You got my Mike back from the police!"

Malone gulped. "I did?" he said. "Well, I—"

"But Mr. Malone—you must help me again! Because now my Mike says he must not stay at home! He is leaving, he is leaving right away!"

"Leaving?" Malone said.

He thought of a thousand things to do. He could send a squad of men to arrest Mike. And Mike could disappear while they were trying to get hold of him. He could go down himself—and be greeted, if he knew Mike Fueyo, with another giant economy-size raspberry. He could try to plead with Mike on the phone.

And what good would that do?

So, instead, he just sat and stared while Mrs. Fueyo went right on.

"He says he will send me money, but money is nothing compared to my own boy, my own Mike. He says he must go away, Mr. Malone—but I know you can stop him! I know it!"

"Sure," Malone said. "But I—"

"Oh, I knew that you would!" Mrs. Fueyo shrieked. She almost came through the screen at him. "You are a great man, Mr. Malone! I will say many prayers for you! I will never stop from praying for you because you help me!" Her voice and face changed abruptly. "Excuse me now," she said. "I must go back to work."

"Well," Malone said, "if I—"

Then she turned back and beamed at him again. "Oh, thank you, Mr. Malone! Thank you with the thanks of a mother! Bring my boy back to me!"

And the image faded and died.

Boyd tapped Malone on the shoulder. "I didn't know you were involved in an advice column for the lovelorn," he said.

"I'm not," Malone said sourly.

Boyd sighed. "I'll bite," he said. "Who was that?"

Malone thought of several possible answers and finally chose one. "That," he said, "was my mother-in-law. She worries about me every time I go out on a job with you."

"Very funny," Boyd said. "I am screaming with laughter."

"Just get back to work, Tommyboy," Malone said, "and leave everything to me."

He hoped he sounded more confident than he felt. Lighting a cigarette

—and wishing he were alone in his own room, so that he could smoke a cigar and not have to worry about looking dashing and alert—Malone strolled out of the office with a final wave to Boyd. He was thinking about Mike Fueyo, and he stopped his chain of reasoning just long enough to look in at the office of the Agent-in-Charge and ask him to pry loose two tickets for "The Hot Seat" that night.

The agent, a tall, thin man, who looked as if he suffered from chronic stomach trouble, said, "You must be crazy. Are they all like that in Washington?"

"No," Malone said cheerfully. "Some of them are pretty normal. There's this one man—Napoleon, we call him—who keeps insisting that he should have won the battle of Waterloo. But otherwise he's perfectly fine."

He flicked his cigarette in the air and left, grinning. Five steps away the grin disappeared and a frown took its place.

VIII.

He walked along Sixty-ninth Street to Park Avenue without noticing where he was going. Luckily, the streets weren't really crowded, and Malone only had to apologize twice, once for stepping on a man's toe and once for absently toeing a woman's dog. When he reached the corner he headed downtown, humming "Kathleen Mavourneen" under his breath and trying to figure out his next move.

He needed more than one move. He needed a whole series of moves. This was not the usual kind of case. Burris had called it a vacation and, in one way, Malone supposed, Burris was perfectly right. For once there was no question about who had committed the crimes. It was obvious by now that Mike Fueyo and his Silent Spooks had been stealing the Cadillacs.

It was even obvious that Mike—or someone with Mike's talent—had bopped him on the head, and taken the red Cadillac he had been examining. And the same gang probably accounted for the Sergeant Jukovsky affair, too.

Or at least it was reasonable to assume that they did, Malone thought. He could see how it had worked: one of the Silent Spooks was a lot smaller than a grown man, and the two cops who hadn't seen anyone in the parked car just hadn't been able to catch sight of the undersized driver. Of course, there *had* been someone in the car when it had been driving along the West Side Highway. Someone who had teleported himself right out of the car when it had gone over the embankment.

That, of course, meant that there would be no secret machines found in the red Cadillacs Leibowitz & Hardin were examining now. But Malone had already decided to let that phase of things go on. First of all, it was always possible that he

was wrong, and that some such machine really did exist. Second, even if they didn't find a machine, they might find something else. Almost anything, he thought, might turn up.

And, third, it kept Boyd decently busy, and out of Malone's hair.

That had been an easy solution. And, Malone thought, the problem of who had been taking the red Cadillacs looked just as easy now, if his answers were right. And he was reasonably sure of that.

Unfortunately, he was now left with a new and unusual question:

How do you catch a teleport?

Malone looked up, jarred to a stop by a man built like a brown bear, with a chunky body and an oval, slightly sloping head and face. He had very short brown hair shot through with gray, and he gave Malone a small, inquisitive stare and looked away without a word.

Malone mumbled: "Sorry," and looked up at the street sign. He was at Forty-seventh Street and Park Avenue. He jerked a hand up to his face, and managed to hook the chunky man by the suit. It fell away, exposing the initials SM carefully worked into his shirt. Second Mistake, Malone thought wildly, muttered: "Sorry," again and turned west, feeling fairly grateful to the unfortunate bystander.

He had reminded Malone of one thing. If he wanted to get even a part of his plan past the drawing-board stage, he had to make a phone call in a hurry.

He found a phone booth in a bar called the Ad Lib, at Madison Avenue. Sternly telling himself that he was stopping there to make a phone call, a business phone call, and not to have a drink, he marched right past the friendly bartender and went into the phone booth, where he made a call to New York Police Commissioner John Henry Fernack.

Fernack's face was that of an old man, but there was no telling how old. The early seventies was one guess, Malone imagined; the late fifties might be another. He looked tough, as if he had spent all of his life trying to persuade other people that he was young enough for the handball tournament. When he saw Malone, his eyebrows lifted slightly, but he didn't say anything.

"Commissioner," Malone said, "I called to ask you to do me a favor."

There was caution hidden in the calm and quiet voice. "Well," Fernack said, "what is it, Malone?"

"Can you have all the robberies for a given period run through the computer?" Malone said. "I need some dope."

"Depends on the given period," Fernack said. "I can't do it for 1774."

"What would I need data on robberies in 1774 for?" Malone said, honestly interested.

"I never question the FBI," Fernack said soberly. "But what dates do you want?"

"The past year, maybe the past year and a half."

"And what data?"

"I want every reported crime that

hasn't been solved," Malone said, "which also seems to have been committed by some impossible means. A safe that was robbed without being opened, for instance—that's the kind of thing I mean."

"Every unsolved crime?" Fernack said. "Now, hold your horses, Malone. I'm not at all sure that—"

"Don't worry about a thing, commissioner," Malone said. "This is confidential."

"You know how I'd feel about this if word ever got out to—"

"I said confidential, John Henry," Malone said, trying to sound friendly and trustworthy. "After all, every place has unsolved crimes. Even the FBI isn't absolutely perfect."

"Oh," Fernack said. "Sure. But confidential, Malone."

"You have my word," Malone said sincerely.

Fernack said: "Well—"

"How fast can you get the dope?" Malone said.

"I don't exactly know," Fernack said. "The last time anything even remotely like this was run through —departmental survey, but you wouldn't be interested—it took something like eight hours."

"Fine," Malone said. "Eight hours then. I'll look everything over and if we need a second run-through it won't take too long. I'll let you know as soon as I can about that." He grinned into the phone.

Fernack cleared his throat and asked delicately: "Mind telling me what all this is for?"

Malone offered up a little prayer before answering, and when he did answer it was in his softest and most friendly tones: "I'd rather not say just now, John Henry."

"But Malone—" Fernack's voice sounded a little strained, and his jaw set just a trifle. "If you—"

Malone knew perfectly well how Fernack reacted when he didn't get a bit of information he wanted. And this was no time to set off any fireworks in the commissioner's office. "Look, John Henry," he said gently, "I'll tell you as soon as I can. Honest. But this is classified information—it's not my fault."

Fernack said: "But—" and apparently realized that argument was not going to do him any good. "All right, Malone," he said at last. "I'll have it for you as soon as possible."

"Great," Malone said. "Then I'll see you later."

"Sure," Fernack said. He paused, as if he were about to open the controversy just once more. But all he said was: "So long, Malone."

Malone breathed a great sigh of relief and flipped the phone off. He stepped out of the booth feeling so proud of himself that he could barely walk. Not only had he managed to calm down Commissioner Fernack, he had also walked right past a bar on the way to the phone. He had performed several acts, he felt, above and beyond the call of duty, and he told himself that he deserved a reward.

Happily, the reward was convenient to hand. He went to the bar and

beckoned the bartender over to him. "Bourbon and soda," he said. "And a medal, if possible."

"What?" the bartender said.

"A medal," Malone said. "For conduct beyond reproach."

The bartender nodded sadly. "Maybe you just ought to go home, Mac," he said. "Sleep it off."

New Yorkers, Malone decided as the bartender went off to get his drink, had no sense of humor. Back in Chicago—where he'd been more or less weaned on gin, and discovered that, unlike his father, he didn't much care for the stuff—and even in Washington, people didn't go around accusing you of drunkenness just because you made some harmless little pleasantry.

Oh, well. Malone drank his drink and went out into the afternoon sunlight.

He considered the itinerary of the Magical Miguel Fueyo. He had gone straight home from the police station, apparently, and had then told his mother that he was going to leave home. But he had promised to send her money.

Of course, money was easy for Mike to get. With a shudder, Malone thought he was beginning to realize just *how* easy. Houdini had once boasted that no bank vault could hold him. In Mike Fueyo's case, that was just doubly true. The vault could neither hold him out or keep him in.

But he was going to leave home.

Malone said: "Hm-m-m," to himself, cleared his throat and tried it again. By now he was at the corner of the block, where he nearly collided with a workman who was busily stowing away a gigantic ladder, a pot of paint and a brush. Malone looked up at the street sign, where the words: "Avenue of the Americas" had been painted out, and "Sixth Avenue" hand-lettered in.

"They finally gave in," the painter told him. "But do you think they'll buy new signs? Nah. Cheap. That's all they are. Cheap as pretzels." He gave Malone a friendly push with one end of the ladder and disappeared into the crowd.

Malone didn't have the faintest idea of what he was talking about. And how cheap could a pretzel be, anyway? Malone didn't remember ever having seen an especially tight-fisted one.

New York, he decided for the fifteenth time, was a strange place.

He walked downtown for a block, still thinking about Mike Fueyo, and absently turned west again. Between Sixth and Seventh, he had another attack of brilliance and began looking for another phone booth.

He found one in a Mexican bar named the Xochitl, across the street from the Church of Saint Mary the Virgin. It was just a coincidence that he had landed in another bar, he told himself hopefully, but he didn't quite believe it. To prove it to himself, he headed straight for the phone booths again and put in his call, ignoring the blandishments of several rows of sparkling bottles which he passed on the way.

He dialed the number for Lieutenant Lynch's precinct, and then found himself connected with a new desk sergeant.

"I'm Malone," he said. "I want to talk to Lynch."

"Glad to know you, Malone," the desk sergeant said pleasantly. "Only *Lieutenant* Lynch doesn't want to subscribe to the Irish *Echo*."

"I'm the FBI." He showed his badge.

The desk sergeant took a good long look at it. "Maybe you are, and maybe you aren't," he said at last. "Does the lieutenant know you?"

"We were kids together," Malone said. "We're brothers. Siamese twins. Put him on the phone."

"Wait a minute," said the desk sergeant. "I'll check."

The screen went blank for two agonizing minutes before it cleared again to show Lynch's face.

"Hello, Mr. Malone," Lynch said formally. "Have you found some new little trick to show us poor, stupid policemen? Like, say, making yourself vanish?"

"I'll make the whole police force vanish," Malone said, "in a couple of minutes. I called to ask a favor."

"Anything," Lynch said. "Anything within my poor power. Whatever I have is yours. Whither thou goest—"

"Knock it off," Malone said, and then grinned. After all, there was no sense in making an enemy out of Lynch.

Lynch blinked, took a deep breath, and said in an entirely different voice: "O.K., Malone. What's the favor?"

"Do you still have that list of Silent Spooks?" Malone said.

"Sure I do," Lynch said. "Why? I gave you a copy of it."

"I can't do this job," Malone said. "You'll have to."

"Yes, sir," Lynch said, and saluted.

"Just listen," Malone said. "I want you to check up on every kid on that list."

"And what are we supposed to do when we find them?" Lynch said.

"That's the trouble," Malone said. "You won't."

"And why not?"

"I'll lay you ten to one," Malone said, "that every one of them has skipped out. Left home. Without giving a forwarding address."

Lynch nodded slowly. "Ten to one?" he said. "Want to make that a money bet? Or does the FBI frown on gambling?"

"Ten dollars to your one," Malone said. "O.K.?"

"Made," Lynch said. "You've got the bet . . . just for the hell of it, understand."

"Oh, sure," Malone said.

"And where can I call you to collect?"

Malone shook his head. "You can't," he said. "I'll call you."

"I will wait with anxiety," Lynch said. "But it had better be before eight. I get off then."

"If I can make it," Malone said.

"If you can't," Lynch said, "call me at home." He gave Malone the number, and then added: "Whatever

information I get, I can keep for my own use this time, can't I?"

"You've already got all the information you're going to get. I just gave it to you."

"That," Lynch said, "we'll see."

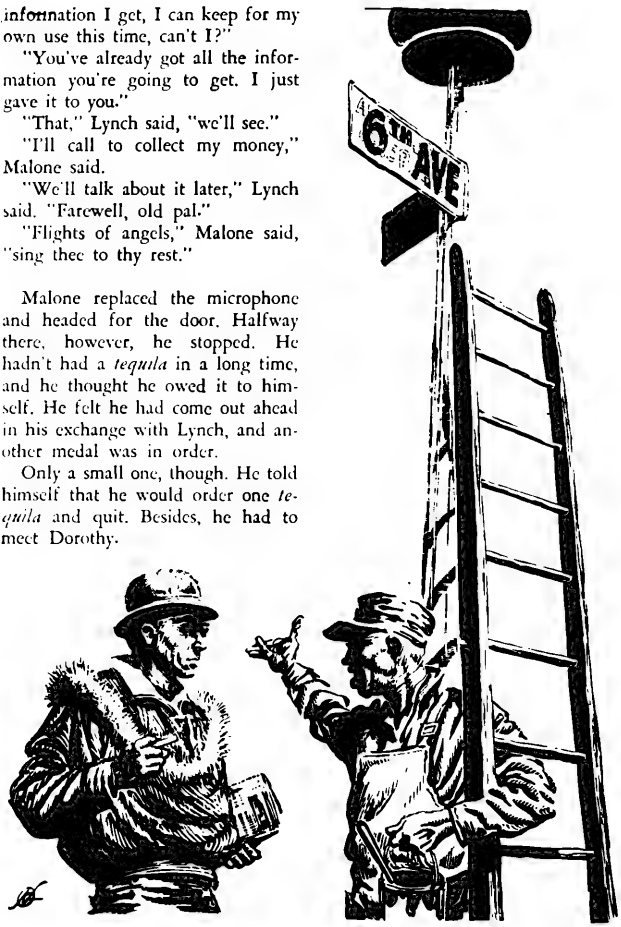
"I'll call to collect my money," Malone said.

"We'll talk about it later," Lynch said. "Farewell, old pal."

"Flights of angels," Malone said, "sing thee to thy rest."

Malone replaced the microphone and headed for the door. Halfway there, however, he stopped. He hadn't had a *tequila* in a long time, and he thought he owed it to himself. He felt he had come out ahead in his exchange with Lynch, and another medal was in order.

Only a small one, though. He told himself that he would order one *tequila* and quit. Besides, he had to meet Dorothy.



He sat down on one of the tall bar stools. The bartender bustled over and eyed him speculatively.

"Tequila con limon" he said negligently.

"Ah," the bartender said. *"Si, senor."*

Malone waited with ill-concealed impatience. At last it arrived.

Malone took the small glass of *tequila* in his right hand, with the slice of lemon held firmly between the index and middle fingers of the same hand, the rind facing in toward the glass. On the web between the thumb and forefinger of his left hand he had sprinkled a little salt. Moving adroitly and with dispatch, he downed the *tequila,* licked off the salt and bit his teeth into the lemon slice.

It felt better than good; it felt wonderful. He hadn't had such a good time in years.

He had three more before he left the Xochitl.

Then, noticing the time, he moved in a hurry and got out of the bar before temptation overcame him and he started ordering still more. It was nearly six o'clock, and he had to meet Dorothy at Topp's.

He hoped he could find it.

He headed downtown toward Forty-second Street, turned left and—sure enough—there was a big red sign. It said Topp's. Malone beamed his approval at it. It was just where it ought to be, and he was grateful.

He pushed open the glass door of the place and went in.

The *maître d'hôtel* was a chunky man with a pleasant face, a receding hairline and some distance back on his head, dark, curly hair. He beamed at Malone as if the FBI agent were a long-lost brother. "Table for one, sir?" he said.

"No," Malone said, peering into the place. It was much bigger than he had expected. "No," he said again. "I guess I'll just have a drink at the bar."

The *maître d'* smiled and bowed him to a bar stool. Malone sat down and looked the place over again. His first glance had shown him that Dorothy wasn't there yet, but he saw no harm in making sure. *Always be careful of your facts,* he admonished himself a little fuzzily.

There were a lot of women in the place, but they were all with escorts. Some of them had two escorts, and Malone wondered about them. Were they drunk, or was he? It was obvious that someone was seeing double, but Malone wasn't quite sure who.

He stared at his face in the bar mirror for a few seconds, and ordered a bourbon and soda when a bartender came over and occluded the image. The bartender went away and Malone went on studying himself.

He wasn't bad-looking for an FBI agent. He was taller than his father, anyway, and less heavily built. That was one good thing. As a matter of fact, Malone told himself, he was really a pretty good-looking guy.

So why did women keep him waiting?

He heard her voice before he saw her, behind him. But she wasn't talking to him.

"Hello, Milty," she said. "How's everything?"

Malone turned around to get a look at Milty. He turned out to be the *maître d'*. What did he have that Malone didn't have? the agent asked himself sourly. Obviously Dorothy was captivated by his charm. Well, that showed him what city girls were like. Butterflies. Social butterflies. Flitting hither and yon with the wind, now attracted to this man, now to that. Once, Malone told himself sadly, he had known this beautiful woman. Now she belonged to someone else.

He felt a little bit sad about it, but he told himself to buck up and learn to live with his tragedy. He drank some more of his bourbon and soda, and then she noticed him.

He heard her say: "Oh. Excuse me, Milty. There's my man." She came over and sat down next to him.

He wanted to ignore her, just to teach her a lesson. But he had already turned around and smiled at her, and she smiled back.

"Hi," she said. "Did you get the tickets?"

Tickets!

Malone knew there had been something he'd forgotten, and now he knew what it was. "Oh," he said. "Sure. Just a second. I've got to check up."

"Check up?"

"Friend of mine," Malone improvised hurriedly. "Bringing them." He gave Dorothy a big smile and climbed down off the bar stool. He managed to find a phone booth, and dialed FBI headquarters on Sixty-ninth Street and blessed several saints when he found that A-in-C was still there.

"Tickets," Malone said.

The Agent-in-Charge blinked at him. "What tickets?" he said.

"The 'Hot Seat' tickets," Malone said. "Did you get 'em?"

"I got 'em," the Agent-in-Charge said sourly. "Had to chase all over town and pull more wires than there are on a grand piano. But they turned up, brother. Two seats. Do you know what a job like that entails?"

"I'm grateful," Malone said. "I'm hysterical with gratitude."

"I'd rather track down a gang of fingerless second-story men than go through that again," the Agent-in-Charge said. He looked as if his stomach trouble had suddenly gotten a great deal worse. Malone thought that the A-in-C was considering calling a doctor, and would probably decide to make it the undertaker instead, and save the price of a call.

"I can't express my gratitude," Malone told him. "Where are they? Where do I pick them up?"

"Box office," the A-in-C said sourly. "I tell you, everybody in Washington must be nuts. The things I have to go through—"

"Thanks," Malone said. "Thanks a lot. Thanks a million. If there's ever anything I can do for you, let me know and I'll do it." He hung up and went back to the bar.

"Well?" Dorothy said. "Where do we go tonight? Joe's Hot Dog stand? Or a revival of 'The Wild Duck' in a loft on Bleecker Street?"

There was pride in Malone's manner as he stood there on his feet. There was just a touch of hauteur as he said: "We'll see 'Hot Seat'."

And he was repaid for all of the Agent-in-Charge's efforts. Dorothy's eyes went wide with appreciation and awe. "My goodness," she said. "A man of his word—and what a tough word, too! Mr. Malone, I congratulate you."

"Nothing," Malone said. "A mere absolute nothing."

"Nothing, the man says," Dorothy muttered. "My goodness. And modest, too. Tell me: how do you do, Mr. Malone?"

"Me?" Malone said. "Very well, so far." He finished his drink. "And you?"

"I work at it," she said cryptically. "May I have another drink?"

Malone gave her a grin. "Another?" he said. "Have two. Have a dozen."

"And what," she said, "would I do with half a dozen drinks? Don't answer. I think I can guess. But let's just take them one at a time—O.K.?" She signaled to the bartender. "Wally, I'll have a Martini. And Mr. Malone will have whatever it is he has, I imagine."

"Bourbon and soda," Malone said, and gave the bartender a grin, too, just to make sure he didn't feel left out. The sun was shining—although it was evening outside—and the birds were singing—although, Malone reflected, catching a bird on Forty-second Street and Broadway might take a bit of doing—and all was well with the world.

There was only a tiny, nagging disturbing thought in his mind. It had to do with Mike Fueyo and the Silent Spooks, and a lot of red Cadillacs. But he pushed it resolutely away. It had nothing to do with the evening he was about to spend. Nothing at all.

After all, this *was* supposed to be a vacation, wasn't it?

"Well, Mr. Malone," Dorothy said, when the drinks had arrived.

"Very well indeed," Malone said, raising his. "And just call me Ken. Didn't I tell you that once before?"

"You did," she said. "And I asked you to call me Dorothy. Not Dotty. Try and remember that."

"I will remember it," Malone said, "just as long as ever I live. You don't look the least bit dotty, anyhow. Which is probably more than anybody could say for me." He started to look at himself in the bar mirror again, and decided not to. "By the way," he added, as a sudden thought struck him. "Dotty what?"

"Now," she said. "There you go doing it."

"Doing what?"

"Calling me that name."

"Oh," Malone said. "Make it Dorothy. Dorothy what?" He blinked. "I mean, I know you've got a last name. Dorothy Something. Only it probably isn't Something. What is it?"

"Francis," she said obligingly. "Dorothy Francis. My middle name is Something, in case you ever want to call me by my middle name. Just yell: 'Hey, Something,' and I'll come a-running. Unless I have something else to do. In which case everything will be very simple: I won't come."

"Ah," Malone said doubtfully. "And what do—"

"What do I do?" she said. "A standard question. Number two of a series. I do modeling. Photographic modeling. And that's not all—I also do commercials on 3-D. If I look familiar to you, it's probably because you've seen me on 3-D. Do I look familiar to you?"

"I never watch 3-D," Malone said, crestfallen.

"Fine," Dorothy said unexpectedly. "You have excellent taste."

"Well," Malone said, "it's just that I never seem to get the time—"

"Don't apologize for it," Dorothy said. "I have to appear on it, but I don't have to like it. And, now that I've answered your questions, how about answering some of mine?"

"Gladly," Malone said. "The inmost secrets of the FBI are yours for the asking."

"Hm-m-m," Dorothy said slowly. "What do you do as an FBI agent, anyhow? Dig up spies?"

"Oh, no," Malone said. "We've got enough trouble with the live ones. We don't go around digging anybody up. Believe me." He paused, feeling dimly that the conversation was beginning to get out of control. "Have I told you that you are the most beautiful woman I've ever met?" he said at last.

"No," Dorothy said. "Not yet, anyway. But I was expecting it."

"You were?" Malone said, disappointed.

"Certainly," Dorothy said. "You've been drinking. As a matter of fact, you've managed to get quite a head start."

Malone hung his head guiltily. "True," he said in a low voice. "Too true. Much too true."

Dorothy nodded, downed her drink and waved to the bartender. "Wally, bring me a double this time."

"A double?"

"Sure," Dorothy said. "I've got to do some fast catching-up on Mr. Malone here."

"Call me Ken," Malone muttered.

"Don't be silly," Dorothy told him. "Wally hardly knows you. He'll call you Mr. Malone, and like it."

The bartender went away and Malone sat on his stool and thought busily for a minute. At last he said: "If you really want to catch up with me—"

"Yes?" Dorothy said.

"Better have a triple," Malone muttered.

Dorothy's eyebrows rose slightly.

"Because I intend to have another one," Malone added.

IX.

It started a million years ago.

In that distant past, a handful of

photons deep in the interior of Sol began their random journey to the photosphere. They had been born as ultrahard gamma radiation, and they were positively bursting with energy, attempting to push their respective ways through the dense nucleonic gas that had been their womb. Within millimicroseconds, they had been swallowed up by the various particles surrounding them—swallowed, and emitted again, as the particles met in violent collision.

And then the process was repeated. After a thousand thousand years, and billions on billions of such repetitions, the handful of photons reached the relatively cool photosphere of the sun. But the long battle had taken some of the drive out of them; over the past million years, even the strongest had become only hard ultraviolet, and the weakest just sputtered out in the form of long radio waves.

But now, at last, they were free! And in the first flush of this newfound freedom, they flung themselves over ninety-three million miles of space, traveling at one hundred and eighty-six thousand miles a second and making the entire trip in less than eight and one-half minutes.

They struck the Earth's ionosphere, and their numbers diminished. The hard ultraviolet was gobbled up by ozone; much of the blue was scattered through the atmosphere. The remainder bore steadily onward.

Down through the air they came, only slightly weakened this time. They hit the glass of a window in the Hotel New Yorker, losing more of their members in the plunge.

And, a few feet from the glass, they ended their million-year epic by illuminating a face.

The face responded to them with something less than pleasure. It was clear that the face did not like being illuminated. It was very bright, much too bright. It seemed to be searing its way through the face's closed eyelids, right past the optic nerves into the brain-pan itself. The face twisted in a sudden spasm, as if its brain were shriveling with heat. Its owner thoughtfully turned over, and the face sought the seclusion and comparative darkness of a pillow.

Unfortunately, the motion brought the face's owner to complete wakefulness. He did not want to be awake, but he had very little choice in the matter. Even though his face was no longer being illuminated, he could feel other rays of sunlight eating at the back of his head. He put the pillow over his head and felt more comfortable for a space, but this slight relief passed, too.

He thought about mausoleums. Mausoleums were nice, cool, dark places where there was never any sun or heat, and never any reason to wake up. Maybe, he told himself, cunningly, if he went to sleep again he would wake up dead, in a mausoleum. That, he thought, would be nice.

Death was nice and pleasant. Unfortunately, he realized, he was not dead. And there was absolutely no chance of his ever getting back to

sleep. He finally rolled over again, being very careful to avoid any more poisonous sunlight. Getting up was an even more difficult process, but Malone knew it had to be managed. Somehow he got his feet firmly planted on the floor and sat up.

It had been a remarkable feat, he told himself. He deserved a medal.

That reminded him of the night before. He had been thinking quite a lot about the medals he deserved for various feats. He had even awarded some of them to himself, in the shape of liquid decoctions.

He remembered all that quite well. There were a lot of cloudy things in his mind, but from all the testimony he could gather, he imagined that he'd had quite a time the night before. Quite a wonderful time, as a matter of fact.

Not that that reflection did anything for him now. As he opened his eyes, one at a time, he thought of Boyd. Once, long ago, ages and ages ago, he had had to wake Boyd up, and he recalled how rough he had been about it. That had been unforgivable.

He made a mental note to apologize to Boyd the next time he saw him—if he could ever see again. Now, he knew how Boyd had felt. And it was terrible.

Still sitting on the bed, he told himself that, in spite of everything, he was lucky. To judge by his vague memories, he'd had quite a time the night before, and if the hangover was payment for it, then he was willing to accept the payment. Almost. Because it had really been a terrific time. The only nagging thought in his mind was that there had been something vital he'd forgotten.

"Tickets," he said, aloud, and was surprised that his voice was audible. As a matter of fact, it was too audible; the noise made him wince slightly. He shifted his position very quietly.

And he hadn't forgotten the tickets. No. He distinctly remembered going to see "The Hot Seat," and finding seats, and actually sitting through the show with Dorothy at his side. He couldn't honestly say that he remembered much of the show itself, but that couldn't be the important thing he'd forgotten. By no means.

He had heard that it was a good show, though. Some time, he reminded himself, he would have to get tickets and actually see it.

He checked through the evening. Drinks. Dinner . . . he had had dinner, hadn't he? Yes, he had. He recalled a broiled sea bass looking up at him with mournful eyes. He couldn't have dreamed anything like that.

And then the theater, and after that some more drinks . . . and so on, and so on, and so on, right to his arrival back in his hotel room, at four-thirty in the morning, on a bright, boiled cloud.

He even remembered arguing with Dorothy about taking her home. She'd won that round by ducking into a subway entrance, and he had turned around after she'd left him

and headed for home. Had he taken a taxi?

Yes, Malone decided, he had. He even remembered that.

Then what had he forgotten?

He had met Dorothy—he told himself, starting all over again in an effort to locate the gaps—at six o'clock, right after phoning . . .

He looked at his watch. It was ten o'clock in the morning. He had completely forgotten to call Fernack and Lynch.

Hangover or no hangover, Malone told himself grimly, there was work to be done. Somehow, he managed to get to his feet and start moving.

He checked Boyd's room after a while. But his partner wasn't home. *Probably at work already,* Malone thought, *while I lie here useless and helpless.* He thought of a sermon on the Evils of Alcohol, and decided he'd better read it to himself instead of delivering it to Boyd.

But he didn't waste any time with it. By ten-fifteen he was showered and shaved, his teeth were brushed, and he was dressed. He felt, he estimated, about fifteen hundred per cent better. That was still lousy, but it wasn't quite as bad as it had been. He could move around and talk and even think a little, if he were careful about it. Before he left, he took a look at himself in the mirror.

Well, he told himself, that was nice.

It hardly showed at all. He looked tired, to be sure, but that was almost normal. The eyes weren't bloodshot red, and didn't seem to bug out at all although Malone would have sworn that they were bleeding all over his face. His head was its normal size, as near as he remembered; it was not swollen visibly, or pulsing like a jellyfish at every move.

He looked even better than he felt.

He started for the door, and then stopped himself. There was no need to go out so early; he could start work right in his own hotel room and not even have to worry about the streets of New York, the cars or the pedestrians for a while.

He thought wistfully about a hair of the hound, decided against it with great firmness, and sat down to phone.

He dialed a number, and the face of Commissioner Fernack appeared almost at once. Malone forced himself to smile cheerfully, reasonably sure that he was going to crack something as he did it. "Hello, John Henry," he said in what he hoped was a good imitation of a happy, carefree voice. "And how are you this lovely morning?"

"Me?" Fernack said sourly. "I'm in great shape. Tiptop. Malone, how did you—"

"Any news for me?" Malone said.

Fernack waited a long time before he answered, and when he did his voice was dangerously soft and calm. "Malone," he said, "when you asked for this survey, just what kind of news did you expect to get anyway?"

"An awful lot of impossible crimes," Malone said frankly. "How did I do, John Henry?"

"You did very well," Fernack said. "Too well. Listen, Malone, how could you know about anything like this?"

Malone blinked. "Well,' he said, "we have our sources. Confidential. Top secret. I'm sure you understand, commissioner." Hurriedly, he added: "What does the breakdown look like?"

"It looks like hell," Fernack said. "About eight months ago, according to the computer, there was a terrific upswing in certain kinds of crime. And since then it's been pretty steady, right at the top of the swing. Hasn't moved down hardly at all."

"Great," Malone said.

Fernack stared. "What?" he said.

"I mean—" Malone stopped, thought of an answer and tried it: "I mean, that checks out my guess. My information. Sources."

Fernack seemed to weigh risks in his mind. "Malone, I know you're FBI," he said at last. "But this sounds pretty fishy to me. Pretty strange."

"You have no idea how strange," Malone said truthfully.

"I'm beginning to," Fernack said. "And if I ever find out that you had anything to do with this—"

"Me?"

"And don't look innocent," Fernack said. "It doesn't succeed in looking anything but horrible. You remind me of a convicted murderer

trying to steal thirty cents from the prison chaplain."

"What would I have to do with all these crimes?" Malone said. "And what kind of crimes were they, anyway?"

"What you'd have to do with them," Fernack said, "is an unanswered question. And so long as it remains unanswered, Malone, you're safe. But when I come up with enough facts to answer it—"

"Don't be silly, commissioner," Malone said. "How about these crimes? What kind were they?"

"Burglaries," Fernack said. "And I have a hunch you know that well enough. Most of them were just burglaries—locked barrooms, for instance, early in the morning. There's never any sign of tampering with the locks, no sign of breaking and entering, no sign of any alarms being tampered with in any way. But the money's gone from the cash register, and all of the liquor is gone, too."

Malone stared. "*All* the liquor?" he said in a dazed voice.

"Well," Fernack said, "all of it that's in plain sight, anyway. Except for the open bottles. Disappeared. Gone. Without a trace. And most of the time the extra stock's gone, too, from the basement or wherever they happen to keep it."

"That's a lot of liquor," Malone said.

"Quite a lot," Fernack said. "Some of the bars have gone broke, not being insured against the losses."

The thought of thousands of bottles of liquor—millions of bottles—went through Malone's mind like an icepick. He could almost see them, handle them, taste them. "Hair of the dog," he muttered. "What hair. What a dog."

"What did you say, Malone?"

"Nothing," Malone said hastily. "Nothing at all." After a second another query occurred to him. "You mean to tell me that only bars were robbed? Nothing else?"

"Oh, no," Fernack said. "Bars are only part of it. Malone, why are you asking me to tell you this?"

"Because I want to know," Malone said patiently.

"I still think—" Fernack began, and then said: "Never mind. But it hasn't been only bars. Supermarkets. Homes. Cleaning and tailoring shops. Jewelers. Malone, you name it, and it's been hit."

Malone tried valiantly to resist temptation, but he was not at his best, and he lost. "All right," he said. "I will name it. Here's a list of places that haven't even been touched by the rising crime wave: Banks, for one."

"Malone!"

"Safes that have been locked, for another," Malone went on. "Homes with wall safes—though that's not quite accurate. The homes may have been robbed, but the safes won't have been touched."

"Malone, how much do you know?" Fernack said.

"I'll make a general rule for you," Malone said. "Any place that fits the

following description is safe: It's got a secure lock on it, and it's too small for a human being to get into."

Fernack opened his mouth, shut it and stared downward, obviously scanning some papers lying on the desk in front of him. Malone waited patiently for the explosion—but it never came.

Instead, Fernack said: "You know, Malone, you remind me of an old friend of mine."

"Really?" Malone said pleasantly.

"You certainly do," Fernack said. "There's just one small difference. You're an FBI man, and he's a crook. If that's a difference."

"It is," Malone said. "And on behalf of the FBI, I resent the allegation. And, as a matter of fact, defy the allegator. But that's neither here nor there," he continued. "If that's the difference, what are the similarities?"

Fernack drew in a deep, hissing breath, and when he spoke his voice was as calm and quiet as a coiled cobra. "The both of you come up with the damnedest answers to things. Things I never knew about or even cared about before. Things I wish I'd never heard of. Things that don't have any explanations. And—" He stopped, his face dark in the screen. Malone wondered what color it was going to turn, and decided on purple as a good choice.

"Well?" Malone said at last.

"And you're always so right it makes me sick," Fernack finished flatly. He rubbed a hand through his hair and stared into the screen at Malone. "How did you know all this stuff?" he said.

Malone waited one full second, while Fernack got darker and darker on the screen. When he judged that the color was right, he said quietly: "I'm prescient. And thanks a lot, John Henry; just send the reports to me personally, at Sixty-ninth Street. By messenger. So long."

He cut the circuit just as Fernack started: "Now, Malone—"

With a satisfied, somewhat sheepish smile, Malone dialed another number. This time a desk sergeant told him politely that Lynch wasn't at the precinct, and wouldn't arrive until noon.

Malone had Lynch's home number. He dialed it.

It was a long wait before the lieutenant answered, and he didn't look much like a police officer when his face finally showed up on the screen. His hair was uncombed and he was unshaven. His eyes were slightly bleary, but he was definitely awake.

"Oh," Malone said. "Hello."

"Hi, there," Lynch said with enormous cheerfulness. "Old buddy-boy. Old pal. Old friend."

"What's wrong?" Malone said.

"Wrong?" Lynch said. "Nothing. Nothing. Nothing at all. I just wanted to thank you for not waking me up last night. I only waited for your call until midnight. Then I decided I just wasn't very important to you. You obviously had much bigger things on your mind."

"As a matter of fact," Malone said,

eying Lynch's figure, dressed in a pair of trousers and a T-shirt, speculatively, "you're right."

"That's what I thought," Lynch said. "And I decided that, since you were so terribly busy, it could wait until I woke up. Or even until I got down to the station. How about it—buddy-boy?"

"Listen, Lynch," Malone said, "we made a bet. Ten to one. I just want to know if I can come down to collect or not."

There was a second of silence.

"All right," Lynch said at last, looking crestfallen. "I owe you a buck. Every last one of those kids has skipped out on us."

"Good," Malone said. He wondered briefly just what was good about it, and decided he'd rather have lost the money to Lynch. But facts, he reflected, were facts. Thoroughly nasty facts.

"I spent all night tracing them," Lynch said. "Got nowhere. Nowhere at all. Tell me, Malone, how did you know—"

"Classified," Malone said. "Very classified. But you're sure they're all gone? Vanished?"

Lynch's face reddened. "Sure I'm sure," he said. "Every last one of them is gone. And what more do you want me to do about it?" He paused, then added: "What do you expect, Malone? Miracles?"

Malone shook his head gently. "No," he said. "I—"

"Oh, never mind," Lynch said.

"But I—"

"Look, Malone," Lynch said, "there's a guy who wants to talk to you."

"One of the Silent Spooks?" Malone said hopefully.

Lynch shook his head and made a growling noise. "Don't be silly," he said. "It's just that this guy might have some information—but he won't say anything to me about it. He's a social worker or something like that."

"Social worker?" Malone said. "He works with the kids, right?"

"I guess," Lynch said. "His name's Kettleman. Albert Kettleman."

Malone nodded. "O.K.," he said. "I'll be right over."

"Hey," Lynch said, "hold on. He's not here now. What do you think this is—my house or a reception center?"

"Sorry," Malone said wearily. "Where and when?"

"How about three o'clock at the precinct station?" Lynch said, "I can have him there by then, and you can get together and talk." He paused. "Nobody likes the cops," he said. "People hear the FBI's mixed up in this, and they figure the cops are all second-stringers or something."

"Sorry to hear it," Malone said.

"I'll bet you are," Lynch told him bitterly.

Malone shrugged. "Anyway," he said, "I'll see you at three, right?"

"Right," Lynch said, and Malone flipped off.

He sat there for a few seconds grinning quietly. His brain throbbed like an overheated motor, but he didn't really mind any more. His theory had been justified, and that was the most important thing.

The Silent Spooks were all teleports.

Eight of them—eight kids on the loose, stealing everything they could lay their hands on, and completely safe. How could you catch a boy who just disappeared when you started for him? No wonder their names hadn't appeared on the police blotter, Malone thought.

The Spooks didn't get into trouble.

They didn't have to.

They could get into any place big enough to hold them, take what they wanted and just disappear. They'd been doing it for about eight months, according to the figures Malone had received from Fernack; maybe teleportative ability didn't develop until you were around fourteen or fifteen.

But it had developed in these kids—and they were using it in the most obvious way. They had a sure method of getting away from the cops, and a sure method of taking anything they wanted. No wonder they had so much money.

Malone got up, feeling slightly dazed, and left the hotel.

X.

By three o'clock, he was again among the living. Maybe his occupations had had something to do with it; he'd spent about four hours supervising Operation Dismemberment, and then listening to the reports on the dismantled Cadillacs. It was nice, peaceful, unimportant work, but there just wasn't anything else to do. FBI work was ninety-five per cent marking time, anyway; Malone felt grateful that there was any action at all in what he was doing.

Dr. Leibowitz had found all sorts of things in the commandeered Caddies—everything from guns and narcotics to pornographic pictures in lots of three hundred, for shipment into New York City from the suburbs where the processing plants probably were. Of course, there had been personal effects, too—maps and lucky dolls and, just once, a singe crutch.

Malone wondered about that for quite a while. Who'd just walk off and leave one crutch in a car? But people did things like that all the time, he finally told himself heavily. There wasn't any explanation for it, and there probably never would be.

But in spite of the majestic assortment of valuables found in the cars, there was no sign of anything remotely resembling an eletctropsionic brain. Dr. Leibowitz had found just about everything—except what he was looking for.

At a quarter of three, Malone gave up. The search wasn't quite finished, but he'd heard enough to last him for a long time. He grabbed a cab downstairs and went over to Lynch's office to meet Kettleman.

The "social worker or something" was a large, balding man about six feet tall. Malone estimated his weight as close to two hundred and fifty pounds, and he looked every pound of it; his face was round without being chubby, and his body was stocky and hard. He wore black-rimmed glasses, and he was going bald in

front. His face was like a mask: it was held in a gentle, almost eager expression that Malone would have sworn had nothing to do with the way Kettleman felt underneath.

Lynch performed the introductions, escorted the two of them to one of the interrogation rooms at the rear of the station, and left them there, with: "If either of you guys comes up with anything, let me know," for a parting shot.

Kettleman blinked slowly behind his glasses. "Mr. Malone," he said, "I understand that the FBI is interested in one of the . . . ah . . . adolescent social groups with which I work."

"Well, the Silent Spooks," Malone said. "That's right."

"The Spooks," Kettleman said. His voice was rather higher than Malone would have expected, oddly breathy without much depth to it. "My, yes. I did want to talk to somebody about it, and I thought you might be the man."

"I'll be interested in anything you have to say," Malone said diplomatically. He was beginning to doubt whether he'd get any real information out of Kettleman. But it was impossible to tell. He sat back in a hard wooden chair and tried to look fascinated.

"Well," Kettleman said tentatively, "the boys themselves have sort of a word for it. They'd say that there was something . . . ah . . . 'oddball' about the Spooks. Do you understand? Not just the fact that they never drink liquor, you understand, but—"

"Something strange," Malone said. "Is that what you mean."

"Ah," Kettleman said. "*Strange.* Of course." He acted, Malone thought, as if he had never heard the word before, and was both pleased and startled by its sound. "Perhaps I had better explain my position a little more clearly," he said. "That will give you an idea of just where I . . . ah . . . 'fit in' to this picture."

"Whatever you think best," Malone said, resigning himself to a very dull hour. He tried to picture Kettleman in the midst of a gang of juvenile delinquents. It was very hard to do.

"I'm a social worker," Kettleman said, "working on an individual basis with these—social groups that the adolescents have formed. It's my job to make friends with them, become accepted by them, and try to turn their hostile impulses toward society into more useful, more acceptable channels."

"I see," Malone said, feeling that something was expected of him. "That's fine."

"Oh, we don't expect praise, we social workers," Kettleman said instantly. "The worth of a good job well done, that's enough for us." He smiled. The effect was a little unsettling, as if a hippopotamus had begun to laugh like a hyena. "But to continue, Mr. Malone," he said.

"Of course," Malone said. "Certainly."

"I've worked with many of the organizations in this neighborhood," Kettleman said. "And I've been quite

successful in getting to know them, and in being accepted by them. Of course, the major part of my job is more difficult, but . . . well, I'm sure that's enough about my own background. That isn't what you're interested in, now, is it?"

He looked penitent. Malone said: "It's all right. I don't mind." He shifted positions on the hard chair.

"Well, then," Kettleman said, with the air of a man suddenly getting down to business. He leaned forward eagerly, his eyes big and bright behind the lenses. "There's something very peculiar about those boys," he said in a whisper.

"Really?" Malone said.

"Very peculiar indeed," Kettleman said. "My, yes. All of the other . . . ah . . . social groups are afraid of them."

"Big, huh?" Malone said. "Big, strong boys who—"

"Oh, my no," Kettleman said. "My goodness, no. All of the Spooks are rather slight, as a matter of fact. They've got *something,* but it isn't strength."

"My goodness," Malone said tiredly.

"I doubt if—in the language of my own groups—any one of the Spooks could punch his way out of a paper bag," Kettleman said. "It's more than that."

"Frankly," Malone said, "I'm inclined to agree with you. But what is this something that frightens everyone else?"

Kettleman leaned even closer. "I'm not sure," he said softly. "I can't say for certain, Mr. Malone. I've only heard rumors."

"Well," Malone said, "rumors might—"

"Rumors are a very powerful force among my groups, Mr. Malone," Kettleman said. "I've learned, over the years, to keep my ear to the ground, as it were, and pay very close attention to rumors."

"I'm sure," Malone said patiently. "But what did this particular rumor say?"

"Well," Kettleman said, and stopped. "Well," he said again. And at last he gulped and got it out: "Magicians, Mr. Malone. They say the Spooks are magicians—that they can come and go at will. Make themselves invisible. All sorts of things. Of course, I don't believe that, but—"

"Oh, it's quite true," Malone said, solemn-faced.

"It's . . . what?"

"Perfectly true," Malone said. "We've known all that."

"Oh, my," Kettleman said. His face took on a whitish cast. "Oh, my goodness," he said. "Isn't that . . . isn't that amazing?" He swallowed hard. "True all the time," he said. "Magicians. I—"

"You see, this information isn't new to us," Malone said.

"Oh," Kettleman said. "No. Of course not. My. It's . . . rather disconcerting to think about, isn't it?"

"There," Malone said, "I agree with you."

Kettleman fell silent. Malone offered him a cigarette, but the social

worker refused with a pale smile, and Malone lit one for himself. He took a couple of puffs in the silence, and then Kettleman said: "Well, Mr. Malone, Lieutenant Lynch did say that I was to tell you everything I could about these boys."

"I'm sure we all appreciate that," Malone said at random, wondering exactly what he meant.

"There is . . . well, there is one more thing," Kettleman said. "Ordinarily, of course, I wouldn't say anything about this to anyone. In my line of work, Mr. Malone, you learn the need for confidence. For being able to keep one's word."

"Certainly," Malone said, wondering what startling new fact was on its way now.

"And we certainly try to keep the confidence of the boys," Kettleman said maddeningly. "We wouldn't betray them to the police in any way unless it were absolutely necessary."

"Betray them—? Mr. Kettleman," Malone said, "just what are you trying to tell me?"

"It's about their meeting place," Kettleman said. "Oh, my. I'm not at all sure I ought to tell you this." He wrung his pale fat hands together and looked at Malone appealingly.

"Now, now," Malone said, feeling foolish. "It's perfectly all right. We don't want to hurt the Spooks. Not any more than we have to. You can tell me, Mr. Kettleman."

"Oh," Kettleman said. "Well. I—The Spooks do have a sort of secret meeting place, you know. And they meet there."

He stopped. Malone said: "Where is it?"

"Oh, it's a big empty warehouse," Kettleman said. "I really feel terrible about this. They're meeting there tonight some time, or that's what the rumors say. I shouldn't be telling you—"

"Of course you should," Malone said, trying to sound reassuring. "Don't worry about a thing, Mr. Kettleman. Tonight?"

"That's right," Kettleman said eagerly. He grinned and then looked morosely down at his hands.

"Do you know where this warehouse is?" Malone said. "If any of the other little social groups use it—"

"Oh, no, they don't," Kettleman said. "That's what makes it so funny. You see, the warehouse is deserted, but it's kept in good repair; there are bars on the windows, and it's protected by all sorts of alarm systems and things like that. So none of the others can use it. Only the Spooks. You can't get in without a key, not at all."

"But do the Spooks—" Malone began.

"Oh, no," Kettleman moaned. "They don't have a key. At least, that's what the other . . . social groups say. The Spooks just . . . just melt through the walls, or something like that."

"Mr. Kettleman," Malone said, "where is this warehouse?"

"I shouldn't be telling you this," Kettleman said.

Malone sighed. "Please, Mr. Ket-

tleman. You know we're working for the good of those boys, don't you?"

"Well, I—"

"Sure we are," Malone said. "So you can tell me."

Kettleman blinked behind his glasses, and moaned a little. Malone waited with his hands tense in his lap. At last Kettleman said: "It's on West Street, near Chambers. That's downtown." He gave Malone an address. "That's where it is," he said. "But you won't . . . do anything to the boys, will you? They're basically good boys. No matter what. And they—"

"Don't worry about it, Mr. Kettleman," Malone said. "We'll take care of the Spooks."

"Oh," Kettleman said. "Yes. Sure."

He got up. Malone said: "There's just one more thing, Mr. Kettleman."

"Yes?" The big man's voice had reached the high, breathy pitch of a fife.

"Do you have any idea what time the Spooks usually meet?"

"Well, now," Kettleman said, "I don't really know. You see, the reason I wanted to tell you all this was because Lieutenant Lynch was checking up on all those boys yesterday, and I thought—" He stopped and cleared his throat, and when he began again his voice had dropped almost to a whisper: "Well, Mr. Ma-

lone, I thought, after all, that since he was asking me questions . . . you know, questions about where they were, the Spooks I mean, and all of that . . . since he was asking me questions—"

"Yes?" Malone said.

"I thought perhaps I ought to tell you about them," Kettleman said. "Where they were, and all of that."

Malone stood up. "Mr. Kettleman," he said in his most official voice, "I want you to know that the FBI appreciates what you've done. Your information will probably be very helpful to us, and the FBI certainly commends you for being public-spirited enough to come to us and tell us what you know." He thought for a second, and then added: "In the name of the FBI, Mr. Kettleman —well done!"

Kettleman stared, smiled and gulped. "My goodness," he said "Well." He smiled again, a little more broadly. "One has one's duty, you know. My, yes. Duty." He nodded to Malone.

"Of course," Malone said, going to the door and opening it. "Thanks again, Mr. Kettleman."

Kettleman saw the open door and headed for it blindly. As he left he flashed one last smile after Malone, who sighed, shut the door and leaned against it for a second.

The things an FBI agent had to go through!

When he had recovered, he opened the door again and peered carefully down the hallway to make sure Kettleman had gone. Then he left the interrogation room and went down the hall, past the desk sergeant, and up the stairs to Lieutenant Lynch's office. He was still breathing a little hard when he opened Lynch's door, and Lynch didn't seem to be expecting him at all. He was very busy with a veritable snow flurry of papers, and he looked as if he had been involved with them steadily ever since he had left Malone and Kettleman alone downstairs.

"Well," Malone said. "Hello there, lieutenant."

Lynch looked up, his face a mask of surprise. "Oh," he said. "It's you. Through with Kettleman?"

"I'm through," Malone said. "As if you didn't know." He looked at Lynch for a long minute, and then said: "Lieutenant—"

Lynch had gone right back to his papers. He looked up again with a bland expression. "Yes?"

"Lieutenant, how reliable is Kettleman?" Malone said.

Lynch shrugged. "He's always been pretty good with the kids, if that's what you mean. You know these social workers—I've never got much information out of him. He feels it's his duty to the kids . . . I don't know. Some such thing. Why do you ask?"

"Well," Malone said, "what he told me. Was he kidding me? Or does he know what he's talking about? Was what he said reasonably accurate?"

"How would I know?" Lynch said. "After all, you were down there

alone, weren't you? I was up here, working. If you'll tell me what he said, maybe I'll be able to tell you whether or not I think he was kidding. But—"

Malone placed both his palms on the lieutenant's desk, mashing a couple of piles of papers. He leaned forward slowly, his eyes on Lynch's bland, innocent face. "Now look, Lynch," he said. "I like you. I really do. You're a good cop. You get things done."

"Well, thanks," Lynch said. "But I don't see what this has to do with—"

"I just don't want you trying to kid your buddy-boy," Malone said.

"Kid you?" Lynch said. "I don't get it."

"Come on, now," Malone said. "I know that room was bugged, just as well as you do. It was the sensible thing for you to pull, and you pulled it. You've got the whole thing recorded, haven't you?"

"Me?" Lynch said. "Why would I—"

"Oh, cut it out," Malone said impatiently. "Let's not play games, O.K.?"

There was a second of silence.

"All right," Lynch said. "So I recorded the conversation. Kill me. Crucify me. I'm stealing FBI secrets. I'm a spy secretly working for a foreign power. Take me out and electrocute me."

"I don't want to fight you," Malone said wearily. "So you've got the stuff recorded. That's your business."

"My business?"

"Sure," Malone said cheerfully, "as long as you don't try to use it."

"Now, Malone—" Lynch began.

"This is touchy stuff," Malone said. "We're going to have to take a lot of care in handling it. And I don't want you throwing raids all over the place and mixing everything up."

"Malone, I—"

"Eventually," Malone said, "I'm going to need your help with these kids. But for right now, I want to handle this my way, without any interference."

"I wouldn't think of—"

"You wanted information," Malone said. "Fine. That's all right with me. You got the information, and that's O.K., too. But if you try to use it before I say the word, I'll . . . I'll talk to good old Uncle John Henry Fernack. And he'll help me out; he'll give you a refresher course on *How To Be A Beat Cop*. In Kew Gardens. It's nice and lonely out there now, Lynch. You'd love it."

"Malone," Lynch said tiredly.

"Don't give me any arguments," Malone said. "I don't want any arguments."

"I won't argue with you, Malone," Lynch said. "I've been trying to tell you something."

Malone stepped away from the desk. "All right," he said. "Go ahead."

Lynch took a deep breath. "Malone, I'm not trying to queer your pitch," he said. "If I were going to pull a raid, here's what I'd have to do: get my own cops together, then

call the precinct that covers that old warehouse. We don't cover the warehouse from here, Malone, and we'd need the responsible precinct's aid in anything we did down there."

Malone said: "Well, all I—"

"Not only that," Lynch said. "I'd have to call Safe and Loft, and get them in on it. A warehouse raid would probably be their baby first of all. That means this precinct, the warehouse precinct, and the Safe and Loft Squad, all together to raid that warehouse. Malone, would I pull a raid at this stage, if I had to go through all that, without knowing what I was going to find down there?"

"Oh," Malone said.

"If those kids can just appear and disappear at will," Lynch said, "I'm not going to pull a raid on them, and end up looking like a fool, until I've got some way of making sure they're there when the raid goes through."

Malone coughed gently. "O.K.," he said at last. "Sorry."

"There's only one thing I want," Lynch said. "I want to be able to move as soon as possible."

"Well, sure," Malone said apologetically.

"And that means I'm going to have to be informed," Lynch said. "I want to know what's going on, as fast as possible."

Malone nodded gently. "Sure," he said. "I'll tell you everything that happens—as soon as I know myself. But right now, I haven't got a thing for you. All I have is a kind of theory, and it's pretty screwy."

He stopped. Lynch looked up at him. "Just how screwy can it get?" he said. "The facts are nutty enough."

"You have absolutely no idea," Malone assured him. "I'm not even saying a word about this, not until I prove it out one way or another. I'm not even thinking about it. I don't even want me to know about it, until it stops sounding so nutty to me."

"O.K., Malone," Lynch said. "I can see a piece of it, if no more. The Fueyo kid vanishes mysteriously—never mind all that about you getting him out of the interrogation room by some kind of confidential method. There isn't any confidential method. I know that better than you do."

"I had to say something, didn't I?" Malone asked apologetically.

"So the kid disappears," Lynch said, brushing Malone's question away with a wave of his hand. "So now I hear all this stuff from Kettleman. And it begins to add up. The kids can disappear somehow, and reappear some place else. Walk through walls?" He shrugged. "How should I know? But they can sure do something like it."

"Something," Malone said. "Like I said, it sounds screwy."

"I don't like it," Lynch said.

Malone nodded. "Nobody likes it," he said. "But keep it under your hat. I'll give you everything I have—whenever I have anything. And . . . by the way—"

"Yes?" Lynch said.

"Thanks for giving me and Kettleman a chance to talk," Malone said.

"Even if you had reasons of your own."

"Oh," Lynch said. "You mean the recording."

"I was a little suspicious," Malone said. "I didn't think you'd give Ketleman to me without getting *something* for yourself."

"Would you?" Lynch said.

Malone shrugged. "I'm not crazy either," he said.

Lynch picked up a handful of papers. "I've got all this work to do," he said. "So I'll see you later."

"O.K.," Malone said.

"And if you need my help, buddy-boy," Lynch said, "just yell—right?"

"I'll yell," Malone said. "Don't worry about that. I'll yell loud enough to get myself heard in Space Station One."

XI.

The afternoon was bright and sunny, but it didn't match Malone's mood. He got a cab outside the precinct station and headed for Sixty-ninth Street, dining off his nails en route. When he hit the FBI Headquarters, he called Washington and got Burris on the line.

He made a full report to the FBI chief, including his wild theory and everything else that had happened. "And there was this notebook," he said, and reached into his jacket pocket for it.

The pocket was empty.

"What notebook?" Burris said.

Malone tried to remember if he'd left the book in his room. He couldn't quite recall. "This book I picked up," he said, and described it. "I'll send it on, or bring it in when the case is over."

"All right," Burris said.

Malone went on with his description of what had happened. When he'd finished, Burris heaved a great sigh.

"My goodness," he said. "Last year it was telepathic spies, and this year it's teleporting thieves. Malone, I hate to think about next year."

"I wish you hadn't said that," Malone said sadly.

Burris blinked. "Why?" he said.

"Oh, just because," Malone said. "I haven't even had time to think about next year, yet. But I'll think about it now."

"Well, maybe it won't be so bad," Burris said.

Malone shook his head. "No, chief," he said. "You're wrong. It'll be worse."

"This is bad enough," Burris said.

"It's a great vacation," Malone said.

"Please," Burris said. "Did I have any idea—"

"Yes," Malone said.

Burris' eyes closed. "All right, Malone," he said after a little pause. "Let's get back to the report. At least it explains the red Cadillac business. Sergeant Jukovsky was hit by a boy who vanished."

"I was hit by a boy who vanished, too," Malone said bitterly. "But, of course, I'm just an FBI agent. Expendable. Nobody cares about—"

"Don't say that, Malone," Burris said. "You're one of my most valuable agents."

Malone tried to stop himself from beaming, but he couldn't. "Well, chief," he began, "I—"

"Vanishing boys," Burris muttered. "What are you going to do with them, Malone?"

"I was hoping you might have some kind of suggestion," Malone said.

"Me?"

"Well," Malone said, "I suppose I'll figure it out—when I catch them. But I did want something from you, chief."

"Anything, Malone," Burris said. "Anything at all."

"I want you to get hold of Dr. O'Connor, out at Yucca Flats, if you can. He's the best psionics man Westinghouse has right now, and I might need him."

"If you say so," Burris said doubtfully.

"Well," Malone said, "these kids are teleports. And maybe there's some way to stop a teleport. Give him a good, hard kick in the psi, for instance."

"In the what?"

"Never mind," Malone said savagely. "But if I'm going to get any information on what makes teleports tick, I'm going to have to get it from Dr. O'Connor—right?"

"Right," Burris said.

"So get in touch with Dr. O'Connor," Malone said.

"I'll have him call you," Burris said. "Meanwhile . . . well, meanwhile just carry on, Malone. I've got every confidence in you."

"Thanks," Malone growled.

"If anybody can crack a case like this," Burris said, "it's you."

"I suppose it had better be," Malone said, and rang off.

Then he started to think. The notebook wasn't in his pockets. He checked every one, even the jacket pocket where he usually kept a handkerchief and nothing else. It wasn't anywhere on his person.

Had he left it in his room?

He thought about that for several minutes, and finally decided that he hadn't. He hadn't taken it out of his pocket, for one thing, and if it had fallen to the ground he couldn't have helped seeing it. Of course, he'd put his wallet, keys, change and other such items on the dresser, and then replaced them in his pockets when morning had come—but he could remember how they'd looked on the dresser.

The notebook hadn't been there among them.

Now that he came to think of it, when had he seen the notebook last? He'd shown it to Lieutenant Lynch during the afternoon, and then he'd put it back in his pocket, and he hadn't looked for it again.

So it had to be somewhere in one of the bars he'd visited, or at the theater where he and Dorothy had seen "The Hot Seat."

Proud of himself for this careful and complete job of deduction, he strolled out and, giving Boyd and

the Agent-in-Charge one small smile each, to remember him by, he went into the sunlight trying to decide which place to check first. He settled on the theater because it was most probable: after all, people were always losing things in theaters. Besides, if he started at the theater, and found the notebook there, he could then go on to a bar to celebrate. If he found the notebook in a bar, he didn't much relish the idea of going on to an empty theater in the middle of the afternoon to celebrate getting the book back.

Shaking his head over this flimsy structure of logic, he headed down to "The Hot Seat." He banged on the lobby doors for a while without any good result, and finally leaned against one of the side doors, which opened. Malone fell through, recovered his balance and found himself facing an old, bewhiskered man with a dustpan, a broom and a surprised expression.

"I'm looking for a notebook," Malone said.

"Try a stationery store, youngster," the old man said. "I thought I'd heard 'em all, but—"

"No," Malone said. "You don't understand."

"I don't have to understand," the old man said. "That's what's so restful about this here job. I just got to sweep up. I don't have to understand nothing. Good-by."

"I'm looking for a notebook I lost here last night," Malone said desperately.

"Oh," the old man said. "Lost and Found. That's different. You come with me."

The old man led Malone in silence to a cave deep in the bowels of the theater, where he went behind a little desk, took up a pencil as if it were a club, held it poised over a sheet of grimy paper, and said: "Name?"

Malone said: "I just want to find a notebook."

"Got to give me your name, youngster," the old man said solemnly. "It's the rules here. After all."

Malone sighed: "Kenneth Malone," he said. "And my address is—"

The old man, fiercely scribbling, looked up. "Wait a minute, can't you?" he said. "I ain't through 'Kenneth' yet." He wrote on, and finally said: "Address?"

"Statler Hilton Hotel," Malone said.

"In Manhattan?" the old man said.

"That's right," Malone said wearily.

"Ah," the old man said. "Tourist, ain't you? Tourists is always losing things. Once it was a big dog. Don't know yet how a dog got into this here theater. Had to feed it for four days before somebody showed up to claim it. Fierce-looking animal. Part bloodhound, part water spaniel."

Fascinated in spite of himself, Malone said: "That's impossible."

"Nothing's impossible," the old man said. "Work for a theater long enough and you find that out. Part bloodhound, I said, and part water spaniel. Should have seen that dog

before you start talking about impossibilities. What a strange-looking beast. And then there was the time—"

"About the notebook," Malone said.

"Notebook?" the old man said.

"I lost a notebook," Malone said. "I was hoping that—"

"Description?" the old man said, and poised his pencil again.

Malone heaved a great sigh. "Black plastic," he said. "About so big." He made motions with his hands. "No names or initials on it. But the first page had my name written on it, along with Lieutenant Peter Lynch."

"Who's he?" the old man said.

"He's a cop," Malone said.

"My, my," the old man said. "Valuable notebook, with a cop's name in it and all. You a cop, youngster?"

Malone shook his head.

"Too bad," the old man said obscurely. "I like cops." He stood up. "You said black plastic? Black?"

"That's right," Malone said. "Do you have it here?"

"Got no notebooks at all here, youngster," the old man said. "Empty billfold, three hats, a couple of coats and some pencils. And an umbrella. No dogs tonight, youngster, *and* no notebooks."

"Oh," Malone said. "Well . . . wait a minute."

"What is it, youngster?" the old man said. "I'm busy this time of day. Got to sweep and clean. Got work to do. Not like you tourists."

With difficulty, Malone leashed his temper. "Why did I have to describe the notebook?" he said. "You haven't got any notebooks at all."

"That's right," the old man said cheerfully.

"But you made me describe—"

"That's the rules," the old man said. "And I ain't about to go against the rules. Not for no tourist." He put the pencil down and rose. "Wish you were a cop," he said. "I never met a cop. They don't lose things like people do."

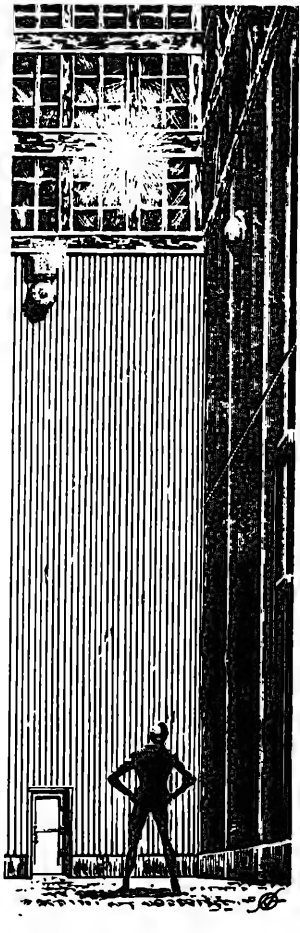
Making a mental note to call up later and talk to the manager, if the notebook hadn't turned up in the meantime, Malone went off to find the bars he had stopped in before the theater.

Saving Topp's for last, he started at the Ad Lib, where a surprised bald man told him they hadn't found a notebook anywhere in the bar for something like six weeks. "Now if you'd been looking for umbrellas," he said, "we could have accommodated you. Got over ten umbrellas downstairs, waiting for their owners. I wonder why people lose so many umbrellas?"

"Maybe they hate rain," Malone said.

"I don't know," the bald man said. "I'm sort of a psychologist—you know, a judge of people. I think it's an unconscious protest against the fetters of a society which is slowly strangling them by—"

Malone said good-by in a hurry and left. His next stop was the



Xochitl, the Mexican bar on Forty-sixth Street. He greeted the bartender warmly.

"Ah," the bartender told him. "You come back. We look for you."

"Look for me?" Malone said. "You mean you found my notebook?"

"Notesbook?" the bartender said.

"A little black plastic book," Malone said, making motions, "about so big. And it—"

"Not find," the bartender said. "You lose him?"

"Sure I lost him," Malone said. "I mean, *it*. Would I be looking for it if I hadn't lost it?"

"Who knows?" the bartender said, and shrugged.

"But you said you were looking for me," Malone said. "What about?"

"Oh," the bartender said. "I only say that. Make customer feel good, think we miss him. Customers like, so we do. What your name?"

"Pizarro," Malone said disgustedly, and went away.

The last stop was Topp's. Well, he had to find the notebook there. It was the only place the notebook could be. That was logic, and Malone was proud of it. He walked into Topp's trying to remember the bartender's name, and found it just as he walked into the bar.

"Hello, Wally," he said gaily.

The bartender stared at him. "I'm not Wally," he said. "Wally's the other barman. My name's Ray."

"Oh," Malone said, feeling deflat-

ed. "Well, I've come about a notebook."

"Yes, sir?" Ray said.

"I lost the notebook here yesterday evening, between six and eight. If you'll just take me to the Lost and Found department—"

"One moment, sir," Ray said, and left him standing at the bar, all alone.

In a few seconds he was back. "I didn't see the notebook myself, sir," he said. "But if Wally picked it up, he'd have turned it over to the *maître d'*. Perhaps you'd like to check with him."

"Sure," Malone said. The *maître d'* turned out to be a shortish, heavy-set man with large blue eyes, a silver mane and a thin, pencil-line mustache. He was addressed, for no reason Malone was able to discover, as BeeBee.

Ray introduced them. "This gentleman wants to know about a notebook," he told BeeBee.

"Notebook?" BeeBee said.

Malone explained at length. BeeBee nodded in an understanding fashion for some moments and, when Malone had finished, disappeared in search of the Lost and Found. He came back rather quickly, with the disturbing news that no notebook was anywhere in the place.

"It's got to be here," Malone insisted.

"Well," BeeBee said, "it isn't. Maybe you left it some place else. Maybe it's home now."

"It isn't," Malone said. "And I've tried every place else."

"New York's a big city, Mr. Malone," BeeBee said.

Malone sighed. "I've tried every place I've been. The notebook couldn't be somewhere I haven't been. A rolling stone follows its owner." He thought about that. It didn't seem to mean anything, but maybe it had once. There was no way to tell for sure.

He went back to the bar to think things over and figure out his next move. A bourbon-and-soda while thinking seemed the obvious order, and Ray bustled off to get it.

Had he left the notebook on the street somewhere, just dropping it by accident? Malone couldn't quite see that happening. It was, of course, possible—but the possibility was so remote that he decided to try and think of everything else first. There was Dorothy, for instance.

Was it possible that she might have the book?

It was. But, if so, how had she got it?

Malone enumerated possibilities on his fingers. First, he could have dropped it or something like that, and she could have picked it up. But dropping the notebook was a chance he'd eliminated already. It just didn't sound likely.

Besides, if he were going to work on the dropping hypothesis, he might as well start from anywhere, on the assumption that he had dropped it anywhere on the street.

But if he *had* dropped it—second finger—and Dorothy had picked

it up, wouldn't she have given it back?

She would have, Malone decided, unless she actually intended to steal it.

And if she had intended to steal it, she could just as easily have lifted it out of his pocket in the first place. She didn't need to wait for it to fall out conveniently, all by itself.

Third finger: why would she steal the notebook? What good was it to her? And how did she even know he had it?

None of those questions seemed to have any answers. Of course, if she'd been connected with the Silent Spooks in some way, it would explain a little—but somehow Malone couldn't see Dorothy as a Silent Spook.

Malone stared at his ring finger and pinky. He pressed the ring finger down, thinking that perhaps Dorothy had picked the notebook up and just forgotten to give it back. That was possible, even if not likely.

Only it required that notebook dropping out again.

The pinky went down. She might be some sort of a kleptomaniac, Malone thought.

That didn't look very probable.

No, Malone decided, realizing that he had no more fingers left, it was impossible to shake off the feeling that the girl had deliberately taken the book for some definite purpose of her own.

He decided to give her a call.

He took the drink from Ray and slid off the bar stool. Two steps away he remembered one more little fact.

He didn't have her number, and he didn't know anything about where she lived, except that it could be reached by subway. That, Malone told himself morosely, limited things nicely to the five boroughs of New York.

And she'd said she was living with her aunt. Would she have a phone listing under her own name, or would the listing be under her aunt's name—which he also didn't know?

At any rate, he could check listings under Dorothy Francis, he told himself.

He did so.

There were lots and lots of people named Dorothy Francis, in Manhattan and in all the other boroughs.

Malone frowned thoughtfully. *I wish somebody would tell me how to get in touch with her,* he thought. *She might know more about that book than I do.*

The thought bothered him. But, to offset it, there was a nice new feeling growing at the back of his mind.

He felt as if he were going to know the answer soon enough.

He felt as if he were going to be lucky again.

In the meantime, he went back to the bar to think some more. He was on his second bourbon-and-soda, still thinking but without any new ideas, when BeeBee tapped him gently on the shoulder.

"Pardon me," the *maître d'* said, "but are you English?"

"Am I what?" Malone said, spill-

ing a little of his drink on the bar.

"Are you English?" BeeBee inquired.

"Oh," Malone said. "No. Irish. Very Irish."

"That's nice," BeeBee said.

Malone stared at him. "I think it's fine," he said, "but I'd love to know why you asked me."

"Well," BeeBee said, "I knew you couldn't be American. Not after the phone call. You don't have to hide your nationality here; we're quite accustomed to foreign visitors. And we don't have special prices for tourists."

Malone waited two breaths. "Will you please tell me," he said slowly, "what it is you're talking about?"

"Certainly," BeeBee said with aplomb. "There's a call for you in the upstairs booth. A long-distance call, personal."

"Oh," Malone said. "Who'd know I was—" He stopped, thinking hard. There was no way in the world for anyone to know he was in Topp's. Therefore, nobody could be calling him. "They've got the wrong name," he said decisively.

"Oh, no," BeeBee said. "I heard them quite distinctly. You *are* Sir Kenneth Malone, aren't you?"

Malone gaped for one long second, and then his mind caught up with the facts. "Oh," he said. "Sure." He raced upstairs to the phone booth, said: "This is Sir Kenneth Malone," into the blank screen, and waited patiently.

After a while an operator said: "Person to person call, Sir Kenneth, from Yucca Flats. Will you take this call?"

"I'll take it," Malone said. A face appeared on the screen, and Malone knew he was right. He knew exactly how he'd been located, and by whom.

Looking at the face in the screen alone, it might have been thought that the woman who appeared there was somebody's grandmother, kindly, red-cheeked and twinkle-eyed. Perhaps that wasn't the only stereotype; she could have been an old-maid schoolteacher, one of the kindly schoolteachers who taught, once upon a time that never was, in the little old red schoolhouses of the dim past. The face positively radiated kindliness, and friendship, and peace.

But if the face was the face of a sentimental dream, the garb was the garb of royalty. Somebody's grandmother was on her way to a costume party. She wore the full court costume of the days of Queen Elizabeth I, complete with brocaded velvet gown, wide ruff collar and bejeweled skullcap.

She was, Malone knew, completely insane.

Like all the other telepaths Malone and the rest of the FBI had found during their work in uncovering a telepathic spy, she had been located in an insane asylum. Months of extensive psychotherapy, including all the newest techniques and some so old that psychiatrists were a little afraid to use them, had done absolutely nothing to shake the firmest

conviction in the mind of Miss Rose Thompson.

She was, she insisted, Elizabeth Tudor, rightful Queen of England.

She claimed she was immortal—which was not true. She also claimed to be a telepath. This was perfectly accurate. It had been her help that had enabled Malone to find the telepathic spy, and a grateful government had rewarded her.

It had given her a special expense allotment for life, covering the clothing she wore, and the style in which she lived. Rooms had been set aside for her at Yucca Flats, and she held court there, sometimes being treated by psychiatrists and sometimes helping Dr. Thomas O'Connor in his experiments and in the development of new psionic machines.

She was probably the happiest psychotic on Earth.

Malone stared at her. For a second he could think of nothing to say but: "My God." He said it.

"Not at all, Sir Kenneth," the little old lady said. "Your Queen."

Malone took a deep breath. "Good afternoon, Your Majesty," he said.

"Good afternoon, Sir Kenneth," she said, and waited. After a second Malone figured out what she was waiting for.

He inclined his head in as courtly a bow as he could manage over a visiphone. "I am deeply honored," he said, "that Your Majesty has called on me. Is there any way in which I might be of service?"

"Oh, goodness me, no," said the little old lady. "I don't need a thing. They do one very well here in Yucca Flats. You must come out soon and see my new throne room. I've had the decorations done by . . . but I can see you're not interested in that, Sir Kenneth."

"But—" Malone realized it was useless to argue with the old lady. She was telepathic, and knew exactly what he was thinking. That, after all, was how he had been located; she had mentally "hunted" for him until she found him.

But why?

"I'll tell you why, Sir Kenneth," the little old lady said. "I'm worried about you."

"Worried? About me, Your Majesty?"

"Certainly," the little old lady said, inclining her head just the proper number of degrees, and raising it again. "You, Sir Kenneth, and that silly little notebook you lost. You've been stewing about it for the last hour."

It was obvious that, for reasons of her own, the Queen had seen fit to look into Malone's mind. She'd found him worrying, and called him about it. It was, Malone thought, sweet of her in a way. But it was also just a bit disconcerting.

He was perfectly well aware that the Queen could read his mind at any distance. But unless something reminded him of the fact, he didn't have to think about it.

And he didn't like to think about it.

"Don't be disturbed," the Queen

said. "Please. I only want to help you, Sir Kenneth; you know that."

"Well, of course I do," Malone said. "But—"

"Heavens to Betsy," she said. "Sir Kenneth, what kind of a detective are you?"

"What?" Malone said, and added at once: "Your Majesty." He knew perfectly well, of course, that Miss Thompson was not Queen Elizabeth I—and he knew that Miss Thompson knew what he thought.

But she didn't mind. Politeness, she held, was the act of being pleasant on the surface, no matter what a person really thought. People were polite to their bosses, she pointed out, even though they were perfectly sure that they could do a better job than the bosses were doing.

So she insisted on the surface pretense that Malone was going through, treating her like a Queen.

The psychiatrists had called her delusion a beautifully rationalized one. As far as Malone was concerned, it made more sense than most of real life.

"That's very nice of you, Sir Kenneth," the Queen said. "But I want to ask you again: what kind of detective are you? Haven't you got any common sense at all?"

Malone hated to admit it, but he had always had just that suspicion. After all, he wasn't a very good detective. He was just lucky. His luck had enabled him to break a lot of tough cases. But some day people would find out, and then—

"Well," the Queen said, "at the very least you ought to *act* like a detective." She sniffed audibly. "Sir Kenneth, I'm ashamed that a member of My Own FBI can't do any better than you're doing now."

Malone blinked into the screen. He did feel ashamed in a vague sort of way, and he was willing to admit it. But he did feel, wistfully, that it would be nice to know just what he was being ashamed of. "Have I been missing something?" he said.

"Outside of the obvious," the Queen said, "that you've been missing your notebook—or, rather, Mike Fueyo's notebook."

"Yes?" Malone said.

"You certainly have," the Queen said. "Don't you see what happened to that notebook? You've been missing the only possible explanation."

"All I can figure," Malone said, "is that Dorothy Francis picked my pocket."

"Exactly," the Queen said. "Now, if you'd only wear proper clothing, and a proper pouch at your belt—"

"I'd be stared at," Malone said. "In court clothing—"

"No one in New York would stare at you," the Queen said. "They'd think it was what they call an advertising stunt."

"Anyhow," Malone said, "I wasn't wearing court clothing. So that made it easy for her to steal the notebook."

Her Majesty gave him a bright smile. "There!" she said.

"There, what?" Malone said.

"I knew you could do it," the

Queen said. "All you had to do was apply your intelligence and you'd come up with just the fact you needed."

"What fact?" Malone said.

"That Miss Francis has your notebook," the Queen said. "You just told me."

"All right," Malone said, and stopped, and took a deep breath. After a pause he said: "What is that supposed to mean?" What on Earth would she want with it? Just to look at all the pretty pictures?"

"Don't be silly," the Queen said, with some asperity. "She doesn't even want to look at the thing. She doesn't care what's in it."

Malone closed his eyes. "Riddle time," he murmured. "Great." Then he sighed. "O.K.," he said. "What *does* she want with it? She must have some use for it. She isn't just a kleptomaniac or something—is she?"

"Of course not," the Queen said. "Then she has a reason," Malone said. "Fine. But what is it? Is she an auxiliary member of the Silent Spooks, or something like that? Don't tell me she's Mike Fueyo's girl friend. I don't think I could take that. It's too silly."

"Naturally it's silly! Sir Kenneth, I—" She stopped, and her face lit up suddenly with pleasure. "Now you're on the right track!" she said. "You just keep right on with that line of thought."

Malone blinked in awe. "You mean she's—"

He didn't want to say it. But the evidence was all there. Dorothy's appearance at the station. The remark Mrs. Fueyo had made when he went to the apartment.

It all fit.

"That's right," the Queen said, a little sadly. "She's Dorothea Francisca Fueyo—little Miguel Fueyo's older sister."

TO BE CONCLUDED

THE ANALYTICAL LABORATORY

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THE EDITOR.

THE

REFERENCE LIBRARY

BY P. SCHUYLER MILLER

THIS month we are running book reviews only; there has been an accumulation of reviews which were displaced for lack of room. In order to keep up with the more important books that are appearing we are using all the space of the Reference Library this month for reviews. P. Schuyler Miller's regular column will be with us next month in the usual format.

SCIENCE FICTION SHOWCASE, edited by Mary Kornbluth. Doubleday & Co., Garden City, N. Y. 1959. 264 pp. $3.95.

Only two of the eleven stories and one poem in this anthology are good enough to belong in a book published as a tribute to the late C. M. Kornbluth. I'd have liked to see a collection of new stories written especially "for" him, as is widely done in the scientific field and, indeed, Richard

Matheson's "Mantage" and Robert Bloch's properly blochian verse, "Nightmare Number Four," show no prior copyright and may have been contributed in this way.

The two superior offerings are Avram Davidson's fantasy, "Or the Grasses Grow," and James Blish's "A Work of Art." The first of these would not be out of place in the *Atlantic Monthly* or *Harper's*—or would not have been at one time. It shows us a handful of Southwestern Indians whose parched and scabrous reservation is in line for profitable development, so that their white neighbors and a piously hypocritical Bureau of Indian Affairs find it necessary to oust the Tickisalls for their own good. But the Indians gain a victory in a strange way of their own.

Blish is another man who finds it hard to write a poor story. This time he shows us a future in which "mind sculptors" have reconstructed the mind of Richard Strauss in the body of a Twenty-second Century nonentity. And as the resurrected Strauss struggles to fit his own concepts of music to the changed world in which he finds himself, the story proceeds through several levels of discovery about the process of artistic creation, to an ironic conclusion.

If these two stories stand out, and would anywhere, some of the others are competent examples of what their authors do well. Murray Leinster's "Med Service" comes from this magazine; I'm sure you remember the enjoyable puzzle confronting Calhoun and his *formal* companion, Murgatroyd, on the planet where someone was trying hard to keep him from stopping a decimating plague. Frederik Pohl seems to be building up fragments of a novel about the society based on compulsory consumption: his "Man Who Ate the World" traces the effects of this twisted philosophy on one unhappy individual, who in consequence almost wrecked the healthier culture that followed. Damon Knight's "Ticket to Anywhere" is the story of one man's wanderings through the Doorways through space and time—a nice, middle-of-the-road tale with a touch of philosophy, but not what Blish and Davidson gave us.

Then there are downright disappointments. Theodore Sturgeon's "That Low" is a gimmicked fantasy that does none of the things Sturgeon usually does. Ray Bradbury's "The End of the Beginning" is flat, trite and sentimentally obvious. It's nice to see Jack Williamson again, but "The Cold Green Eye" is another obvious fantasy in which he seems to be trying to be early Bradbury instead of late Williamson.

We're left with take-'em-or-leave-'em contributions by Poul Anderson —"The Long Remembering," a nice mental venture into the days of Neanderthal/Cro Magnon conflict, but too short for the author to really get going—Philip K. Dick, whose talking insects in "Expendable" are also a notch below what you'd expect, and Richard Matheson, whose "Mantage" draws out a gimmick till it twungles like an electric guitar.

And there is Bloch, whose poem in memory of Stephen Vincent Benet's "Metropolitan Nightmare" should, I guess, be up there with Davidson and Blish as worthy of the Kornbluth association. "Nightmare Number Four," he calls it, and the satire cuts deep.

THE WAR AGAINST THE RULL, by A. E. van Vogt. Simon and Schuster, New York. 1959. 244 pp. $3.50

Setting "Slan' aside, I have always liked the early Van Vogt, who conjured up the strange worlds and believable monsters of "Black Destroyer" and its ilk, better than the plot tangler of the later books. Here are the Rull stories, published here in the "good old days" from 1940 to 1950, fitted together into a book-length sequence that is too episodic to be quite a novel by our more demanding 1960 standards.

Actually, although the protean Rull are the nominal adversary against whom human civilization is fighting a hopeless interstellar war, the real interest in the book comes in the parts in which Trevor Jamieson is battling the frightful, telepathic *ezwals* of Carson's Planet, and trying to make them into allies. Best of all is the opening section—"Co-operate or Else" in 1942—in which Jamieson and an *ezwal* are spacewrecked and fighting a savage three-cornered duel, with each other and with the horrible world on which they are trying to stay alive. Another thriller originally appeared as "The Rull," in 1948: here Jamieson and a Rull are setting traps for each other.

Out of key with the Man-against-Nature themes of the other episodes, but moving in its own way, is the story of Jamieson's small son's adventure in search of "The Sound." Used by the Rull and against them, he gets his real satisfaction from at last learning what it is that stirs him so.

But this is not a short story collection, though the parts were once separate. The assembly is uneven and jouncy, and I wish Van Vogt had taken the time to fit the material together in a real novel.

GALACTIC DERELICT, by Andre Norton. World Publishing Co., Cleveland & New York. 1959. 224 pp. $3.00

SECRET OF THE LOST RACE, by Andre Norton.

ONE AGAINST HERCULUM, by Jerry Sohl. Ace Books No. D-381. 1959. 132+124 pp. 35¢

It should be no news to regular readers that Andre Norton can do practically no wrong where I am concerned. I think this quiet Cleveland librarian writes the best planetary adventure yarns going, brimming with the "sense of wonder" that is supposed to have been lost years ago, and I can't see why they aren't even better

fare for knowledgeable adults than for the teen-aged readers for whom they are supposedly published.

In both these books, though, Miss Norton is writing a bit below her best level. In the case of "Galactic Derelict," I think the reason is the "mixed purpose complaint that has also infected some of Robert A. Heinlein's recent books. With "Secret of the Lost Race"—titled "Wolfhead" in the original manuscript, which I got in one of the Detention auctions—the trouble is a little too much experimenting with other people's formulas. But what good is a writer who doesn't continually experiment?

"Galactic Derelict" is a sequel to "The Time Traders," a superb time-travel-adventure story that is apparently to be part of a still-unfinished series. United States time traders are searching through past eras for a wrecked fleet of interstellar ships, from one of which the Soviets are salvaging highly dangerous scientific secrets. In the new book an Indian hero, Travis Fox, comes upon a post of the traders and is enlisted to help them find a derelict in the time of the Southwest's Folsom men, some ten thousands years ago. To be strictly correct, the Folsom man didn't hunt mammoths; the mammoth hunters were his Clovis predecessors—but the point is a quibble, because the story abruptly turns into an interstellar and possibly an intergalactic jaunt, when the deserted ship, programmed for an automatically controlled voyage, takes off for a series of strange ports among the stars.

Here the pure Norton touch regains its full magic in scene after scene, clarifying one aspect of the mystery star-race, only to throw out new puzzles. In the end, though much has been learned, the central mystery is unsolved, and we can hope that the time traders will go on through still more books as good or better than this one. Even more, I'd like to see Travis Fox take his impoverished Apache kinsmen to pioneer a brand new planet, drawing on old skills and understandings to tame a world like their own, yet subtly different. *That* could be pure Norton, and magnificent and they'd make wonderful planet pioneers!

"Secret of the Lost Race" also gets its best scenes from the ice-world of Fenris, to which the mysterious youngster named Joktar has been shanghaied and sold into bond-slavery. He escapes in an avalanche, fights off the animal and climatic dangers of the frigid world, joins forces with a group of malcontents, and eventually discovers the secret of his own origin and the forces lined up against him. But the Van Vogtian intertwining of hidden forces gets in the way of the Man-against-the-elements theme and the sense of wonder. Given a little more space, it might all have turned out better.

Jerry Sohl's "One Against Herculum" is also a righteous-man-against-a-warped society story. Unable to advance on the colonial planet, Herculum, without paying off the head of the examination system, Alan Demuth uses a loophole in the social code and

claims his right to murder the man for extra points. He promptly finds the system rigged against him, but also finds unexpected—to him—allies in his revolt. To the experienced reader, most of the moves are foreseeable, and the details are only mildly interesting.

THE DAWNING LIGHT, by Robert Randall. Gnome Press, Hicksville, N. Y. 1959. 191 pp. $3.00

This is the second part of Randy Garrett's pseudonymous chronicling of the revivification of the planet Nidor, picked up from these pages of three years ago. I didn't enjoy it as much as "The Shrouded Planet," but on the other hand I seem to have grown used to the tonsil-twisting Nidorian names, which sound Welsh and are actually quite simple when you learn what to disregard.

To go back to the earlier book, Earthmen have landed on the cloud-wrapped planet Nidor, inhabited by a race of furry humanoids, and have set up the Bel Rogas School for education of bright young people. But some of these young folk feel unjustly put upon, and foment revolt against their own authorities and against the Earthmen. We followed this struggle for independence through a couple of generations in "The Shrouded Planet," and now we tag along as a third generation drives hard at the "demons" from Earth.

It's an indication of the liveliness of the way this campaign starts, that the book opens with a bank robbery and includes a fair amount of conniving, mayhem, and bland crookedness in a good cause. Though Kris peKym Yorgen isn't as interesting a hero as his friend and mentor, Norvis peRahn Brajjyd, was—and still is—he is at least a man who gets things done. In the end, it appears that there was a hidden motive behind all this unrest, but what that is I will have to leave to the author and your probably alert intuition.

ROBOT HUNT, by Roger Lee Vernon. Avalon Books, New York, 1959. 224 pp. $2.95

This future "whodunit" is far better than the author's dismally inept "The Space Frontiers" for Signet, but it is no bargain even at Pick-a-Book discounts, and it has some of the same clumsiness as the earlier short stories—going east across the Atlantic from Paris to America, for example. These are things that a good publisher gets rid of.

We are shown a mildly interesting urban society of the future, in which cities, areas and individuals exist in a kind of international stalemate under force screens. There are a few humanoid robots mixed with the utilitarian kind that take most responsibilities off human shoulders, and one of them has stolen the plans for a screen-piercer. The hero, Internal Security Chief Russ Sinclaire,

has twenty-four hours to get 'em back.

With an entourage of ill- and well-wishers, Russ muddles along, using the popular private-eye technique of stirring things up to see what runs out of the brush. Plenty does, and he uncovers and punctures a rare variety of plots against society before he gets around to looking at the obvious culprit, who has been standing there waiting for him all the time.

I'm afraid only a really rabid collector would want this.

FOUR FOR THE FUTURE, edited by Groff Conklin. Pyramid Books No. G-434. 1959. 160 pp. 35¢

Can any anthology edited by Groff Conklin, containing stories by Poul Anderson, Theodore Sturgeon, Henry Kuttner and Eric Frank Russell, fail to be worth considerably more than thirty-five cents? Add the fact that three of the four stories were first published here in Astounding, and reach for your pocket.

Strange as it seems, Sturgeon's "The Claustrophile," from *Galaxy*, is the least of the four offerings—even though Anderson's and Russell's are purely entertainment. His hero is a moody intellectual with an extravert space-jockey brother, for whom he automatically steps aside until he suddenly learns the "purpose" of Man on Earth.

The long Kuttner story, "The Children's Hour," slowly spins a strange experience of *Homo superior* in our midst. It was here in 1944 as the work of "Lawrence O'Donnell," and is as beautifully done as anything of Kuttner's, exploding at the end into a revelation of the endlessness of mental growth.

Russell's yarn, "Plus X," here in 1956, is a story of a glorious bluff put over by the captured Terran scout who ends an interstellar war single-handed, except for a couple of bits of wood, some wire, and Eustace Phenackertiban.

And Poul Anderson's "Enough Rope"—ASF, 1953—shows how the devilishly devious minds of Patrol Intelligence can totally entangle a bellicose adversary in his own machinations.

SEED OF LIGHT, by Edmund Cooper. Ballantine Books No. 327K. 1959. 159 pp. 35¢

Brian Aldiss, one of England's bright hopes for future SF greatness, was able to convert the old theme of the generations-long star-flight into something freshly lush, in his "Starship." Edmund Cooper, tackling the same theme, does nothing for it or for British pre-eminence in the SF world.

The first third of the book is devoted to the plotting and counter-plotting which gets a ship on its way to the stars, while Earth slugs itself to death behind them. For no clear

reason the five men on the *Solarian* have renamed themselves for great thinkers of the past, while the women have taken the names of cities; this pattern they carry down through the generations, as the starship cruises from system to system, seeking a haven where Mankind can start again.

For a time there is some interest in the story, when a psi-powerful strain develops in the ship's younger generations, but in subduing the natural opportunities for melodrama, of which Aldiss and Robert Heinlein before him made the most, Cooper has drifted into dreariness.

VANGUARD FROM ALPHA, by Brian W. Aldiss.

THE CHANGELING WORLDS, by Kenneth Bulmer. Ace Books No. D-369. 1959. 109+145 pp. 35¢

Although Brian Aldiss came very close to winning a Hugo as most promising new writer of 1958, the honors in this Ace doublet go to his fellow-countryman, Kenneth Bulmer. These two English writers are members of a growing guild who are helping John Carnell, editor/publisher of *New Worlds, Science-Fantasy,* and *Science Fiction Adventures,* prove that a knowing biologist can grow tasty new meat on old bones.

In a lively interstellar action yarn, well mixed up with intermingling undergrounds, Bulmer gives us a picture of an effete, hereditarily wealthy society of planet-to-planet flitters, supported on the productivity of a spreading pyramid of "white," "red," and "black symbol" worlds. When an assassin's dart cuts down the missionary brother of the hero, he starts digging to find out who did it and why, and winds up in the midst of a hotly boiling interstellar revolution —which is just a bit more complicated than it seems.

The Aldiss story is another of underground delvings, this time on Earth, where a shipload of refugees from Alpha Centauri have been allowed to settle on a chunk of Sumatra, and then to set up a "scientific" base on the Moon. Tyne Leslie, escaping from a spying jaunt to the Moon base, suspects that a pal has been killed by a traitor, and sets out to prove his case and find out what the alien Rosks are up to. But there's mighty little of the Aldiss touch visible in the proceedings.

MASTERS OF EVOLUTION, by Damon Knight.

FIRE IN THE HEAVENS, by George O. Smith. Ace Books No. D-375, 1959. 96+159 pp. 35¢

Damon Knight's half of this Ace double is the first book appearance of an enjoyable, light-weight yarn built around a nice idea which apparently didn't interest the author enough. We're given a future—as close as 2064, in fact—in which the society of the cities has parted com-

pletely from that of the "Muckfeet" in the vast open spaces. The cities have an ultra-mechanized, artificially supported prosperity, but they are running out of raw materials and have to get them from the country people, who are strangely unco-operative. So Alvah Gustad, a Brando of tomorrow, is sent out to sell the Muckfeet a bill of goods.

What he finds, basically, is that the country folk have turned to controlled evolution to manufacture, out of germ plasm, more than the cities' technology could possibly give them. Bacteria and plants reclaim metals for them—even grow them in the form of knives or hoes or knitting needles. Truck-sized herbivores come equipped with very comfortable bucketseats and windshields. The ham-and-egg plant has replaced the eggplant.

It's like something out of "Oz," and I gather that Damon never took it very seriously, but he could have had even more fun with it than he has. The plot is much too standard for a writer with his talents and standards.

The flip half of the book is a reprint of the 1958 Avalon hardback, in which a feminine tycoon and a scientist battle each other over what is milking the life out of the Sun. Like the first half, it's mainly for entertainment.

THE WORLD THAT COULDN'T BE, edited by H. L. Gold. Doubleday & Co., Garden City, N. Y. 1959. 288 pp. $3.95

The love affair between Doubleday and *Galaxy* continues with this anthology of nine novelettes from the years 1954-1958. It also gives the lie direct to the claim that there's been no good science fiction in the "good" magazines since—whenever it was the bellyacher switched to private-eye paperbacks, or started watching Westerns on television.

The gripers may merely be saying that there's a shortage of *memorable* stories, and there they have something. I think it was Damon Knight who dubbed the present situation one of high-grade mediocrity. You'd think that in five years of one of the top SF magazines you could find a small landmark, but it's not here. Edgar Pangborn's "The Music Master of Babylon" is the only really serious story of the nine, with its picture of a submerged New York, in which one old man defends his music and his memories against the neo-savages from outside. The rest all have a theme or flavor of light humor.

One of the best is the story about hunting dinosaurs, L. Sprague de Camp's "A Gun for Dinosaur," whose title I was trying to recall a few months back. The action is wholly predictable, but the reconstruction of a Middle Cretaceous landscape and ecology is superb. I repeat: you'll never find a better example of the way three top authors can make the same theme into three totally dif-

ferent and characteristic stories, than the dinosaur-hunting tales by Ray Bradbury, Brian Aldiss and L. Sprague de Camp.

But let's be orderly. The title story is a hunting yarn by Clifford D. Simak, and a gimmick yarn at that. The world that couldn't be was liberally inhabited but showed no sign of sex; the solution is a new kind of reproduction. Alan E. Nourse's "Brightside Crossing" is an adventure story about a foolhardy attempt to cross the sunward side of Mercury at perihelion, with the Sun at its closest. There's a kind of wry humor in the play of character. "Mezzerow Loves Company," by F. L. Wallace, carries its humor into the open, and shows us a scheming hick from the far corners of the galaxy, who wants only to get the name of his home world changed from Messy Row back to Mezzerow.

They are all top SF writers here: next in line is Damon Knight, with "An Eye for a What?" This is a pretty little problem story: how do you punish an alien, when you don't know what he considers good and bad—even though he wants to be disciplined? Mark Clifton has a spacewreck problem on his hands in "A Woman's Place." Miss Kitty, spinster on the wrong side of thirty, was ready to do her duty to perpetuate the race, with the help of the two spacemen cast away with her on an alternate Earth. As you might know, the author swings this simple plot around his head several times before he lets go; among other things, he solves the Malthusian problem for all time to come.

Surely Richard Matheson will contribute something memorably grim or creepy? Nope: his is "One for the Books," and his hero is a college janitor who suddenly finds that he can absorb all kinds of erudition effortlessly, by telepathy or as a virus in the air he breathes. Humor again. And can you have any doubt about what Evelyn E. Smith has in mind with a title like "Once a Greech"? A greech, y'unnerstan', is a pet of one of the native inhabitants of Flimbot, which is the nineteenth moon of the eleventh planet of the star Virago. This one enters the story as a friendly pink caterpillar, but that's only the beginning.

As I said, good fun all through, but nothing to put away for posterity or point out to the pundits of *Saturday Review.*

THE DARK DESTROYERS, by Manly Wade Wellman. Avalon Books, New York. 1959. 224 pp. $2.95

Avalon has dug clear back into Astounding's December, 1938 and January, 1939 issues for this one. It was a two-parter called "Nuisance Value" then, and I have *not* compared the two versions to see how much patching the author has done, or how much butchery the publisher may have perpetrated. For the record, it's a far better story than the last one of Wellman's that Avalon

resurrected, "Giants From Eternity."

This is a straightforward, action-filled adventure yarn about Mankind's eventual revolt against the snaillike Cold People who had swarmed over Earth and driven a handful of human survivors into the tropical jungles. Mark Darragh, the standard nonconformist hero who is still strong among us, sets out to find a weak point in the Cold People's impregnable ring of fortresses. You won't be surprised that he does so, but the details are fun.

Remember, Pick-a-Book has the Avalon titles now at a price half or less the publisher's "suggested price." But your local bookstore can't get this discount; you have to do it yourself, with a direct order to Marty Greenberg in Hicksville, New York. Why not send for his list? This yarn is certainly as much fun as a downtown movie, and some of Avalon's best titles are worth a night on the town.

THE SIRENS OF TITAN, by Kurt Vonnegut, Jr. Dell Publishing Co., N. Y. No. B-138. 319 pp. 35¢

This burst on me as a complete and happy surprise, though it shouldn't have, when you remember the quality of the author's "Player Piano," and some of his SF short stories. It is almost unclassifiable, but it can be categorized: it belongs side by side with Alfred Bester's "Demolished Man" and "Stars My Destination."

It's impossible to describe Vonnegut's mocking, tongue-in-cheek, deadpan exploitation of familiar themes in a wholly fresh way. The nearest way, I guess, is to tell you the name he gives the space-time phenomenon that kicks off the whole tangled plot: it's an uncharted "chrono-synclastic infundibula," and it's very nicely explained on page 13, in a quotation from Dr. Cyril Hall's article in the fourteenth edition of "A Child's Cyclopedia of Wonders and Things to Do."

A well-fixed villain named Winston Niles Rumfoord, with his mastiff Kazak, has become involved with the aforesaid csi some time before the story gets under way. He is buttered out through space and time, living simultaneously in all times, but coinciding for various intervals with various places. He is, for example, back home in Rhode Island for a short time every fifty-nine days; he spends rather longer periods building up a remote-controlled Martian army; and he is permanently on Titan, as the neighbor of a character named Salo, who comes from the planet Tralfamadore in the Small Magellanic Cloud, who is eleven million years old, and who has had the intergalactic equivalent of a blowout while on a mission to the far side of our galaxy. Salo gets into the action late, but he is the key to the whole mess.

THE END

(*Continued from page* 7)
is not nulldict . . . then he has a risk situation which he must consider. If *lorbils* are introduced into commerce, there is the risk of losing his shirt by *not* taking part in the business . . . and the risk of losing his shirt if he *does*. He must make a calculated-risk judgment, and decide which risk-system to accept.

If the class is nulldict, however . . . *ahhhh!* No worries!

Again, consider a paranoid neurotic; he is intensely worried because of the populous class of those-who-seek-to-harm-him. He is constantly oppressed by the need to evaluate everyone near him, to determine whether this person is, or is not, a member of the menacing class.

If he can, somehow, reach the decision that the class is, in fact, nulldict—then he is immediately freed of all that worry, and relieved of all those burdening evaluative judgments.

This, of course, is what the psychiatrist seeks to induce—an acceptance of the belief that the class is, actually, nulldict.

A primitive tribesman can be stopped by fear, if he encounters signs which he interprets as meaning "There are evil ghosts in the area ahead!" But the trefoil heliotrope-on-yellow symbol of radiation hazard, or a rapidly stuttering Geiger counter, would not slow him down at all.

A modern nuclear physicist would react exactly the opposite way. The physicist is sure that the class ghosts is nulldict, not merely empty, while the class radiation hazard is, to the tribesman, nulldict.

Each will say to the other, "if you knew what I know, you would be forced to agree with me!"

The crucial point is this; if the physicist knew and felt-believed the concept of the reality of evil ghosts, as the tribesman feels-believes it, *he would be forced to agree!*

Because belief has to do with postulates—not logic. Logic manipulates postulates, and draws conclusions from them—but logic can neither create nor destroy a postulate. *Reductio ad absurdum* logical argument cannot destroy a postulate; it merely proves that the case discussed is not relevant to the postulate. A *reductio ad absurdum* argument can be developed to prove that no triangle's angles total more than 180°; it simply proves that the postulate that the angles of a triangle total 180° or more is not relevant to plane triangles. But, of course, it *is* relevant to spherical triangles.

The tribesman cannot react to the to-him-nonexistent class "nuclear radiation"—but if he is taught that that helitrope-on-yellow trefoil is a warning of evil spirits present, he can readily accept and react to that. An evil spirit is an invisible, but potent and destructive entity; he can accept that concept just as readily as the nuclear physicist.

It's *not* true that if you "know," in the intellectual sense, what I "know" you must agree with me. But

it *is* true that if you *believe* as I believe, then you will be forced to agree with me.

Suppose that I believe that the class atomic bombs is nulldict; that I truly, solidly, and sincerely believe that. That there are none, of course, there never were, and, moreover, there never can be. (The approximate position of the average American in 1910, in other words.) You, however, believe the class is not nulldict —merely empty. (The approximate position of the average science-fictioneer in 1940.) And you are concerned with the risks of atomic weapons . . .

The unbeliever is unworried, unruffled, and you cannot induce worry in him. He says, and truly, "If you knew what I know, you would be forced to agree with me that your worry is nonsense."

He is absolutely and exactly correct. And if you try to meet him halfway—it's impossible, because while 5 is halfway between 0 and 10, there is no quantity, intensity, or degree compromise concept possible to a nulldict class! How much gas is there in a vacuum? Obviously, it isn't a vacuum if there's air in it. Is a vacuum hot or cold?

You have *not* accepted-realized-understood Tog's nulldict belief unless you fully agree that *no discussion of the matter is possible.*

Therefore, the fact that you seek to, or even consider continuing discussion proves absolutely conclusively that you do not understand Tog's nulldict viewpoint.

The result is a situation in which discussion is absolutely impossible.

If you accept Tog's viewpoint-opinion as a basis for discussion, it is immediately clear that there is nothing to discuss.

If you do not accept Tog's viewpoint, discussion is inherently impossible because he knows there is nothing to discuss.

The preceeding discussion is quite largely derived from some of the experiences I have encountered in the last few months while continuing to investigate the device I mentioned in the December, 1959 editorial.

If you accept-understand-appreciate the fundamental laws of modern physics, there is nothing to discuss; the device, if it functioned, would violate the law of action and reaction, the law of conservation of energy, and the law of conservation of momentum.

Therefore the device is a member of a nulldicted class—and there is nothing whatever to discuss.

And that is, in actual fact, precisely the reaction Mr. Norman L. Dean has received from professional scientists. I intend a full discussion of the device in the June, 1960 issue; my own investigation of the device makes me fairly sure—probability about .98, say—that Dean has discovered a true space drive.

But my investigation of the reaction he has received demonstrates a probability 1.0000—a situation possible only when nulldiction is involved!—that Dean has been given

almost precisely the reception that Galileo was.

His patent was issued in the summer of 1959; it's U. S. Patent No. 2,886,976, "System for Converting Rotary Motion to Unidirectional Motion." There was an ad offering the invention for sale in the January 14, 1960 issue of the *Wall Street Journal.*

If you believe, as the physicists do, that the conservation of momentum is an absolute Truth, not a Logos, then you must—you are absolutely forced to—agree with them that any device claiming to produce thrust without reaction is a member of a nulldicted class.

I took the trouble to go see the device. Mr. Dean lives in Washington; it's a fifty-cents cab fare from almost any government office to his apartment, where the demonstration model has been available since he applied for the patent more than a year before Sputnik I went up. It's a two hundred sixty mile drive from my home.

I watched his little working model —powered by an ordinary one-quarter-inch drill motor—develop an unbalanced, uni-directional thrust of sixteen pounds.

Remember this: since a nulldict class can have no real members, no member of a nulldict class can, in any way, represent a risk, or problem. Since Dean's space drive belongs to the nulldicted class of devices not obeying the Law of Conservation of Momentum, it represents no problem or risk.

There can be no risk of a Security breach in allowing full, free, public publication of the patent by the United States Government Printing Office, because the class is, of course, nulldict. (Anyone who wants a copy can get it for twenty-five cents.)

There can be no risk in not investigating the device which, if it weren't nulldict, could have put a ship on Mars before October, 1957. (The trip would take about three days.)

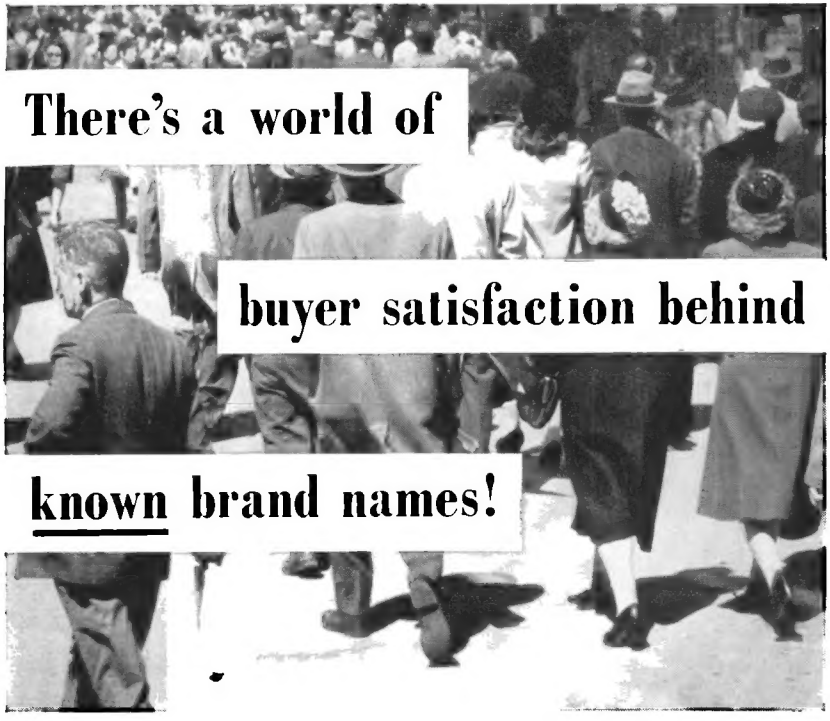
Because of time limitations, I couldn't get the material ready for publication in this issue. The June issue will have a full presentation of available facts on the matter—with photographs of the model in action in Dean's Washington apartment.

You know, whether Dean's device actually works or not is, actually, secondary.

It's a perfectly magnificent demonstration of something quite different: During the three years Dean was trying to get someone to look into his discovery, during the three years the Patent Office bumbled along in its routine fashion before issuing the patent, *not one agent of any government science office, at any time, consented to watch a demonstration.*

"No, Galileo, we will *not* look through your telescope! Go away and don't bother us."

THE EDITOR.



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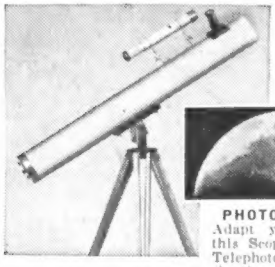

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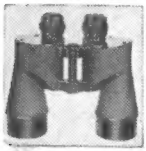

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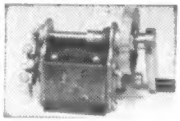

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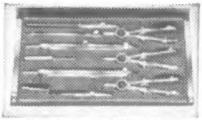

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